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PROCEEDINGS
OF THE
CONNECTICUT
STATE MEDICAL SOCIETY

1920

128th ANNUAL CONVENTION

HELD AT

NEW HAVEN, MAY 19th and 20th, 1920.

EDITOR

JAMES FREDERICK ROGERS

PUBLISHED BY THE SOCIETY

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The Connecticut State Medical Society does not hold itself responsible for the opinions contained in any article unless such opinions are indorsed by special vote. All communications intended for the Connecticut State Medical Society should be addressed to the secretary, Charles W. Comfort, Jr., M.D., 1193 Chapel Street, New Haven, Conn.

The next annual meeting of the Connecticut State Medical Society will be held in Hartford, May 18th and 19th, 1921.

The next semi-annual meeting of the Connecticut State Medical Society will be held in conjunction with that of the Middlesex County Medical Association at the Connecticut State Hospital, Middletown, October 14th, 1920.

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OFFICERS OF THE SOCIETY.

1920-1921.

President.

GEORGE BLUMER, M.D., New Haven.

Vice-Presidents.

WILLIAM H. JUDSON, M.D., Danielson.

WILLIAM H. DONALDSON, M.D., Fairfield.

Secretary.

CHARLES W. COMFORT, JR., M.D., New Haven.

Treasurer.

PHINEAS H. INGALLS, M.D., Hartford.

COMMITTEES.

1920-1921.

STANDING COMMITTEES.

COMMITTEE ON SCIENTIFIC WORK.

E. A. Wells, *Chairman*. Frank H. Barnes.
The Secretary.

COMMITTEE ON MEDICAL EXAMINATIONS AND MEDICAL EDUCATION.

John C. Rowley, 1916, *Secretary*. Robert L. Rowley, 1918.
Seldom B. Overlock, 1917. Fritz C. Hyde, 1919.
Charles A. Tuttle, 1920.

COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

E. K. Root, *Chairman*. C. J. Foote.
C. C. Gildersleeve. C. E. Simonds.
W. H. Donaldson. James Murphy.
R. S. Goodwin. T. F. O'Loughlin.
The President. The Secretary.

COMMITTEE ON HONORARY MEMBERS AND DEGREES.

C. J. Bartlett, *Chairman*. E. T. Bradstreet.
C. B. Graves.

SPECIAL COMMITTEES.

COMMITTEE ON A SANATORIUM FOR THE NERVOUS POOR.

F. K. Hallock, *Chairman*. George Blumer.
John L. Buel. F. T. Simpson.
Charles D. Alton.

COMMITTEE ON HEALTH PROBLEMS IN EDUCATION.

E. W. Goodenough, *Chairman*. H. W. Brayton.
C. J. Foote. D. Sullivan.
L. A. Wilkes.

COMMITTEE ON NATIONAL LEGISLATION.

D. Chester Brown.

COMMITTEE ON MEDICAL DEFENSE.

W. H. Donaldson, *Chairman*. F. H. Barnes.
A. G. Nadler.

COMMITTEE ON HOSPITALS.

Philip W. Bill, 1921, *Chairman*. Wilder Tileston, 1922.
W. R. Steiner, 1921. D. Sullivan, 1923.
H. F. Brownlee, 1922. S. B. Overlock, 1923.

COMMITTEE ON THE HISTORY OF THE MEDICAL PROFESSION OF
CONNECTICUT IN THE WORLD WAR.

Frank H. Wheeler, *Chairman*. George Blumer.
D. Chester Brown. Walter R. Steiner.
The Secretary.

COMMITTEE ON HEALTH INSURANCE.

C. J. Foote, *Chairman*. F. H. Wheeler.
W. H. Donaldson. Paul Waterman.
C. C. Gildersleeve. F. K. Hallock.
E. K. Root. Elias Pratt.
D. R. Lyman. H. L. F. Locke.

COMMITTEE ON REQUIREMENTS FOR THE PRACTICE OF MEDICINE.

D. Chester Brown, *Chairman*. A. E. Austin.
George Blumer. F. H. Barnes.
J. C. Rowley. G. M. Smith.
C. B. Graves.

COMMITTEE ON PUBLICATION.

J. E. Lane, *Chairman*. The Editor of the Proceedings.
The Secretary.

COMMITTEE ON PERMANENT FUNDS.

Walter R. Steiner. Thomas F. Rockwell.
The Treasurer.

AUDITORS.

Walter R. Steiner. Thomas F. Rockwell.

DELEGATES.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

John E. Lane, 1920-1921. Alternate, Charles J. Bartlett.
Walter R. Steiner, 1921-1922. Alternate, F. K. Hallock.

DELEGATES TO STATE ASSOCIATIONS.

RHODE ISLAND.

C. B. Graves.

NEW HAMPSHIRE.

J. F. Calef.

MAINE.

P. H. Ingalls.

PENNSYLVANIA.

G. H. Noxon.

W. H. Donaldson.

VERMONT.

S. M. Garlick.

A. C. Freeman.

MASSACHUSETTS.

S. B. Overlock.

NEW JERSEY.

W. K. Tingley.

HOUSE OF DELEGATES.

COUNCILORS.

FAIRFIELD COUNTY.

1920 FRANK W. STEVENS.

HARTFORD COUNTY.

1919 WALTER R. STEINER.

LITCHFIELD COUNTY.

1920 ELIAS PRATT.

MIDDLESEX COUNTY.

1919 GEORGE N. LAWSON.

NEW HAVEN COUNTY.

1920 WILLIAM H. CARMALT.

NEW LONDON COUNTY.

1919 CHARLES C. GILDERSLEEVE.

TOLLAND COUNTY.

1920 THOMAS F. ROCKWELL.

WINDHAM COUNTY.

1919 SELDOM B. OVERLOCK.

DELEGATES.

FAIRFIELD COUNTY.

C. C. Godfrey.
W. T. Godfrey.
E. B. Ives.

C. V. Calvin.
C. J. Levery.
J. W. Avery.

HARTFORD COUNTY.

P. D. Bunce.
S. E. Phelps.
A. M. Outerson.

P. Waterman.
T. S. O'Connell.
W. N. Thompson.

PROCEEDINGS.

LITCHFIELD COUNTY.

F. A. Weed.

H. B. Hanchett.

MIDDLESEX COUNTY.

J. F. Calef.

M. W. Plumstead.

NEW HAVEN COUNTY.

E. T. Bradstreet.

F. G. Graves.

H. Thoms.

B. A. Cheney.

H. M. Steele.

E. W. Smith.

W. L. Barber.

C. A. Tuttle.

H. G. Anderson.

NEW LONDON COUNTY.

W. K. Tingley.

A. C. Freeman.

TOLLAND COUNTY.

W. B. Dean.

WINDHAM COUNTY.

C. E. Simonds.

A. D. Marsh.

MINUTES OF THE HOUSE OF DELEGATES

FIRST SESSION.

The first meeting of the House of Delegates was held at the New Haven Medical Association Building, New Haven, on Wednesday, May 19, 1920, at 10:30 A. M. The following officers and delegates were present during the meeting: President, C. B. Graves; Vice-President, F. H. Wheeler; Treasurer, P. H. Ingalls; Secretary, J. E. Lane; Councilors: F. W. Stevens, Fairfield County; W. R. Steiner, Hartford County; G. N. Lawson, Middlesex County; W. H. Carmalt, New Haven County; C. C. Gildersleeve, New London County; T. F. Rockwell, Tolland County; S. B. Overlock, Windham County. Delegates: Fairfield County—C. C. Godfrey, J. W. Avery, E. B. Ives, C. V. Calvin, C. J. Leverty; Hartford County—No delegates present; Litchfield County—No delegates present; Middlesex County—J. F. Calef; New Haven County—E. T. Bradstreet, F. G. Graves, W. L. Barber, B. A. Cheney, H. Thoms; New London County—No delegates present; Tolland County—No delegates present; Windham County—A. D. Marsh.

The following reports were read, and except where otherwise noted, accepted and ordered on file.

REPORT OF THE PRESIDENT.

DR. CHARLES B. GRAVES.

Members of the House of Delegates:

The year which is just closing has been relatively uneventful. My report will therefore be brief. The readjustment following the war, so far as it has concerned medical men and medical affairs, has proceeded swiftly, so that now the conditions of civil medical practice and medical institutions are pretty much as they were before the war.

The past winter, however, we shall not soon forget. Weather conditions which were unprecedented combined with an epidemic of influenza, made a combination sufficiently impressive as well as oppressive. Happily the influenza was not in the main of a virulent type so that we have come through it passably well.

The Society has suffered the loss during the past year of three of its honorary members: Dr. J. W. S. Gouley of New York, Sir James Grant of Ottawa, and Sir William Osler. Dr. Gouley, born in New Orleans in 1832, graduate of the College of Physicians and Surgeons in New York in 1853, Civil War Surgeon, long resident in New York in private and hospital practice, productive medical author, was for many years and until his retirement professor of diseases of the genito-urinary system in the medical department of the University of New York. Sir James Grant, native of Scotland in 1830, educated in Canada, M.D. 1854 McGill University, knighted by Queen Victoria in 1887, long president of the Ottawa General Hospital and member of Parliament, an authority in sanitary science, was acknowledged one of the most eminent men of the Dominion. Sir William Osler's life needs no rehearsal. It is familiar to all. Encomiums from me upon the lives of these three distinguished men would be superfluous, peculiarly so in the case of the last named—one of those "born to make the sun forgotten." The Society has been honored in having their names upon its roll.

The semi-annual meeting of the State Society was held as scheduled at the Mansfield State Training School and Hospital in conjunction with the fall meeting of the Tolland County Medical Association. It was my first visit to the institution, and the extent of the state's interest there was a surprise to me. The attendance was not as large as it should have been. My impression is that the men from the smaller places do not respond to these opportunities as they ought. Those who failed to go missed a very interesting scientific program, as well as a fine farm dinner provided by the hospitality of the trustees and management of the institution.

The other County Associations have held their customary meetings, of which I have visited as many as I conveniently

could. The attendance was in the main good, the papers and discussions always interesting. My visit to the fall meeting of the New Haven County Medical Association was on the occasion of the celebration at the Gaylord Farm Sanatorium. All who attended will bear me out in the statement that it was an event of extraordinary interest. Special mention may be made also of Middlesex County's elaborate and successful Welcome Home to its ex-service members, which I had the honor of attending.

Those of our officers who attend upon the annual birth of our proceedings, Drs. J. E. Lane and J. F. Rogers, have added another ring to their already broad and splendid halo by another early issue. They merit our hearty congratulations. The Society has been served by a long line of efficient secretaries; it is no reflection upon them to say that never has the office been better filled than by the present incumbent.

Various matters of the first importance will come before this meeting. They will be taken up in due course, partly in connection with committee reports.

In conclusion I wish to say that I have been deeply sensible of the high, but truly undeserved, honor conferred upon me. I would also express my grateful appreciation of the generous coöperation extended to me by all, especially by our cordial and kind-hearted Secretary, without which I should have been many times stalled by the wayside.

Respectfully submitted,

CHARLES B. GRAVES, *President*.

REPORT OF THE SECRETARY.

DR. JOHN E. LANE, New Haven.

Mr. President and Members of the House of Delegates:

During the past year the activities of the Society have returned to a nearly normal basis, and the officers and committees of the Society have been able to lay aside many of the duties which the war had forced upon them, or to transfer them to the Committee on the History of the Medical Profession of Connecticut in the World War.

The Semi-Annual Meeting of the Society was held at the Mansfield State Training School and Hospital in conjunction with the Semi-Annual Meeting of the Tolland County Association. There was a good attendance. All of the County Associations were again able to hold their semi-annual and annual meetings.

Dr. Frank K. Hallock resigned from the Committee on Honorary Members and Degrees and from the Committee on Health Insurance. The President appointed Dr. E. T. Bradstreet to the vacancy on the former and Dr. Charles E. Bush to that on the latter committee.

The Society was requested by Dr. Noble P. Barnes, Chairman of the Committee on Credentials of the United States Pharmacopœial Convention, to send delegates to that Convention, which met in Washington on May 11. The following delegates and alternates were appointed by the President:

Dr. S. M. Garlick	Alternate, Dr. C. W. Comfort
Dr. H. G. Barbour	Alternate, Dr. L. M. Gompertz
Dr. E. K. Root	Alternate, Dr. H. F. Stoll

At the request of the State Committee of Public Health Nursing, Dr. C. P. Botsford was appointed by the Council to represent the Society on that Committee.

The publication in the last issue of the Proceedings of the list of medical serials in the libraries of Connecticut has evoked much favorable comment. The Secretary has received several letters from prominent librarians expressing their appreciation of the value of the work, and the Bulletin of the Medical Library Association devoted a page to a very complimentary review of it by Lieut. Col. F. H. Garrison, of the Surgeon General's Library. Similar reviews have appeared in other journals. It is to be hoped that there may be further publication of work of this sort as the funds of the Society permit. The list was prepared under the direction of Mr. Andrew Keogh, Librarian of the Yale University Library, and was edited by Miss Margaret Brinton, the librarian of the medical department.

During the past year three of our honorary members have

died: Sir James Grant, Sir William Osler, and Dr. J. W. S. Gouley.

The following deaths have been reported by the Secretaries of the County Associations since the last Annual Meeting of these Associations:

FAIRFIELD COUNTY

Rollin Alanson Curtis, Stratford.
Rosavelle Gardner Philip, Stamford.
George J. Schuele, Bridgeport.

HARTFORD COUNTY

David Crary, Hartford.
Edwin Augustus Down, Hartford.
William Wickham Horton, Bristol.
Philip Thomas Kennedy, Hartford.
Arthur Brownell Wright, Hartford.

LITCHFIELD COUNTY.

William Bissell, Lakeville.

MIDDLESEX COUNTY

Cushman Allen Sears, Portland.

NEW HAVEN COUNTY

John Frederick Barnett, West Haven.
J. M. Benedict, Woodbury.
James Bernard Dinnan, Meriden.
Edward Dormenio Hall, Meriden.
Mary Blair Moody, Berkeley, Calif.
H. Walter Murless, Guilford.
Frank Hamilton Whittemore, New Haven.

TOLLAND COUNTY

Alonzo L. Hurd, Somers.

WINDHAM COUNTY

Jay Hobart Egbert, Windham.

The following new members have been admitted to the Society:

FAIRFIELD COUNTY

F. P. Carroll, Bridgeport.
M. E. Cowen, Green's Farms.
H. R. DeLuca, Bridgeport.
G. Hipkiss, Noroton Heights.

M. G. Keeler, Springdale.
L. Simonson, Bridgeport.
J. F. Watts, Bridgeport.
B. S. Weaver, Stamford.

HARTFORD COUNTY

E. B. Allen, South Manchester.
R. B. Boyce, Hartford.
J. L. Bressler, Hartford.
W. P. Daley, Hartford.
H. W. Furniss, Hartford.
J. A. Higgins, Hartford.
H. M. Hurwitz, Hartford.
J. B. Kilbourn, Hartford.
S. Maislen, Hartford.
F. J. Mann, New Britain.
J. W. Parker, Hartford.
M. Quaglia, Hartford.
J. Schaefer, Hartford.
A. Shafer, Hartford.
D. E. Shea, Hartford.
W. M. Stockwell, New Britain.
S. B. Weld, Hartford.

LITCHFIELD COUNTY

J. E. Brennan, New Milford.
C. D. Cudworth, Winsted.
C. W. Jackson, Watertown.
E. Quintard, Norfolk.
E. G. Reade, Watertown.

MIDDLESEX COUNTY

R. L. Leak, Middletown.
F. P. Manship, Middlefield.
C. A. VanCor, Middletown.

NEW HAVEN COUNTY

A. J. Anderson, Waterbury.
C. Barker, New Haven.
K. B. Bretzfelder, New Haven.
C. K. Deming, New Haven.
F. E. Foley, New Haven.
L. A. Geraci, New Haven.
G. A. Gosselin, Waterbury.
A. J. Jackson, Waterbury.
D. F. Levy, New Haven.
H. H. Maynard, New Haven.

W. H. J. O'Brien, New Haven.
 I. S. Otis, Meriden.
 O. F. Rogers, Jr., New Haven.
 J. D. Russo, New Haven.
 R. B. Seabury, New Haven.
 M. T. Sheehan, Wallingford.
 G. M. Smith, Waterbury.
 M. J. Strauss, New Haven.
 W. N. Sweet, Wallingford.
 W. B. Terhune, New Haven.
 A. M. Yudkin, New Haven.

NEW LONDON COUNTY

Paul F. Gadle, Norwich.
 Joseph M. Klein, New Britain.
 Thomas A. Woodruff, New London.
 Franklin S. Wilcox, Norwich.

WINDHAM COUNTY

H. L. Clark, Willimantic.
 G. T. Lamarche, Putnam.
 B. P. Murphy, Putnam.
 W. G. Tanner, Brooklyn.
 F. P. Todd, Danielson.

The following table shows the present membership and the changes in membership which have taken place in the past year :

County Associations	Total Membership	New Members	Reinstatements	Died	Removed or Resigned	Suspended, Dropped	Added by Transfer	Gain	Loss
Fairfield County	206	8	5	3	2	5	1	6	0
Hartford County	246	17	0	5	1	5	0	6	0
Litchfield County	69	5	0	1	4	0	0	0	0
Middlesex County	52	3	0	1	0	0	0	2	0
New Haven County	332	21	0	7	0	0	0	13	0
New London County	67	4	0	0	0	0	0	4	0
Tolland County	15	0	0	1	1	0	0	0	2
Windham County	40	5	0	1	0	0	0	4	0
Totals	1,027	63	5	19	8	10	1	35	2

The net gain in membership is 33.

It is gratifying to note that the membership is now somewhat greater than it was before the war, the loss in membership of the last few years having been more than made up by the new members added this year.

There is usually a slight loss of membership each year, which is due to members being dropped on their removal to another county in the state. Part of this loss could probably be avoided if the Secretary of the County Society from which they move would notify the Secretary of the County Society into whose jurisdiction they go, in order that the latter might urge them to secure transfers.

The slight delay in the issue of last year's Proceedings was due to unavoidable labor troubles in the printing office. It is gratifying to the editor to give this reason and to state that the delay was not caused by tardiness in receiving material from members of the Society. The cordial response to the request for sending in reports and papers promptly materially lessens the editorial work.

Those who have examined last year's Proceedings will greatly regret that new duties will prevent the editor from filling this position for another year.

The Secretary desires to express his appreciation and thanks to the President, to the Chairman of the Council, to the Editor of the Proceedings, to the officers of the Society, to the members of the different committees, and to many individual members of the Society for the interest and assistance in his work during the period which he has been in office.

Respectfully submitted,

JOHN E. LANE, *Secretary.*

REPORT OF THE CHAIRMAN OF THE COUNCIL.

DR. WILLIAM H. CARMALT.

Mr. President and Gentlemen of the House of Delegates:

The first meeting of the Council was held on May 22, 1919, immediately after the adjournment of the scientific meeting.

Dr. W. H. Carmalt was elected Chairman, the Committee on

Publication consisting of Dr. Walter R. Steiner, Chairman, the Secretary and the Editor of the Proceedings was elected; Dr. Walter R. Steiner and Thomas F. Rockwell were elected Auditors.

The salaries of the Secretary and of the Editor of the Proceedings were made at \$150 each. Adjourned subject to the call of the Chairman.

The second meeting was held on April 14, 1920, at Hartford. Every member was present as follows, viz.: Dr. W. H. Carmalt, Chairman of New Haven County, Dr. Frank W. Stevens of Fairfield County, Dr. Walter R. Steiner of Hartford County, Dr. Elias Pratt of Litchfield County, Dr. George N. Lawson of Middlesex County, Dr. Charles C. Gildersleeve of New London County, Dr. Thomas F. Rockwell of Tolland County, Dr. Seldom B. Overlock of Windham County, and the President and Secretary *ex-officio*.

As the Nominating Committee the Council presents the following names for officers, and on Committees and for Delegates, viz.:

For President, Dr. George Blumer of New Haven.

For Vice-President, (1) Dr. W. H. Judson of Danielson, (2) Dr. W. H. Donaldson of Fairfield.

Secretary, Dr. Chas. W. Comfort of New Haven.

Treasurer, Dr. P. H. Ingalls of Hartford.

Committee on Scientific Work, (1) Dr. E. A. Wells of Hartford, Chairman, (2) Dr. F. H. Barnes of Stamford, (3) The Secretary.

Member of the Committee on Medical Examinations and Medical Education to succeed Dr. Charles A. Tuttle, whose term expires at the end of this year, Dr. Charles A. Tuttle.

Committee on Public Policy and Legislation, Dr. E. K. Root, Chairman, Dr. C. C. Gildersleeve, Dr. W. H. Donaldson, Dr. R. S. Goodwin, Dr. C. J. Foote, Dr. C. E. Simonds, Dr. James Murphy, Dr. T. F. O'Loughlin, The President, *ex-officio*, The Secretary, *ex-officio*.

Committee on Honorary Members and Degrees, Dr. C. J. Bartlett, Chairman, Dr. E. T. Bradstreet, Dr. C. B. Graves.

Delegate to the American Medical Association for 1921-22 to succeed Dr. W. R. Steiner, Dr. W. R. Steiner.

Alternate to the American Medical Association for 1921-22 to succeed Dr. F. K. Hallock, Dr. F. K. Hallock.

The following recommendations to the House of Delegates were made for action:

First, after a report from the Treasurer, that the dues for the ensuing year be \$3.00.

Second, that one-half of the expenses of Professor H. G. Barbour to the first meeting of the United States Pharmacopœial Convention be paid by the Society.

Third, that the Treasurer be authorized to use the income of the Gurdon Russell Fund for current expenses during the coming year if found necessary.

Fourth, that the Treasurer be authorized to pay the dues of indigent members from the O. C. Smith Fund as certified to by the Councilors of the respective Societies.

Fifth, that the next Annual Meeting be held at Hartford on Wednesday and Thursday, May 18 and 19, 1921.

Sixth, that the Semi-Annual Meeting be held in conjunction with that of the Middlesex County Medical Association on Thursday, October 14, 1920, at a place to be designated by the Middlesex County Association.

The meeting adjourned to meet in New Haven on Wednesday, May 19, at 9:45 A. M., in the rooms of the New Haven Medical Association.

WM. H. CARMALT,

Chairman of the Council.

REPORTS OF THE COUNCILORS.

Fairfield County, Dr. Frank W. Stevens, Councilor.

Mr. President and Gentlemen of the House of Delegates:

The Fairfield County Medical Association has held two meetings during the past year, both of which were well attended. During the year we have admitted nine new members and lost three by death, making a total membership of 206.

This Association has gone on record as opposing Compulsory Health Insurance in its present form.

Peace and harmony prevails throughout the county.

Respectfully submitted,

FRANK W. STEVENS,

Councilor.

Hartford County, Dr. Walter R. Steiner, Councilor.

Mr. President and Gentlemen of the House of Delegates:

The year 1919-1920 has vanished with great rapidity and the Councilor from Hartford County finds little to report. The fall and spring meetings were very successful. Upon the former occasion we had papers by Drs. J. R. Miller on the "Vomiting of Pregnancy"; by J. F. O'Brien on the "Operative Treatment of Deformities After Infantile Paralysis"; by A. M. Rowley on "Goitre: A Review of Operative Cases," and by Arthur F. Chase of the Post Graduate School in New York, on "The Examination of the Feces in Chronic Conditions." The spring meeting also equally held the interest of the members of our Association and papers were then read by Drs. Wm. H. Crowley on "Value of Blood Transfusion"; by Paul B. Swett on "Therapeutic Value of Arthrotomy"; by Harry F. Locke on "The Tuberculous Cow vs. the Child"; and by Ernest A. Wells on "Some Observations on Carcinoma of the Rectum."

In the fall the Hartford Hospital was successful in a drive which netted them somewhat over \$500,000 to meet their needs and this spring the St. Francis Hospital will have one for a like purpose. The New Britain Hospital is being reorganized and is looking forward to a career of increasing usefulness. At South Manchester a hospital is being organized to fulfil an urgent demand for such an institution.

We now have 247 members of the Association, or a gain of six over the number last reported. During the year five have died (Drs. David Crary, E. A. Down, Arthur B. Wright, W. W. Horton and Philip T. Kennedy). Their obituaries will record

their useful lives in coming Transactions so no further mention will be made of them here. Two members have moved from the county, one has resigned, one has been transferred, two have been suspended and seventeen new members have been elected.

Respectfully submitted,

WALTER R. STEINER,

Councilor.

Litchfield County, Elias Pratt, Councilor.

The report of the Councilor from Litchfield County was not read.

Middlesex County, George N. Lawson, Councilor.

Mr. President and Gentlemen of the House of Delegates:

Our Association has during the year held two most interesting meetings. The fall meeting was of unusual interest as it was a joint meeting of the County and the Central Medical Associations and was followed by a welcome-home banquet to our thirteen members who had during the war been in the service of the United States. The gathering was most impressive and the speaking excellent.

The Middlesex Medical Association as well as the Central Medical Association invite to their meetings all qualified medical practitioners of whatever school, and several homeopathic physicians have availed themselves of the opportunity.

We have lost by death our oldest and most beloved member, Dr. Cushman A. Sears, who died on the 20th of last October. Dr. Sears spent fifty-seven busy years in the practice of medicine, more than half a century of this long term of service being rendered in the town of Portland. Who can estimate the amount of suffering he relieved by his ministrations or what clouds of care and foreboding were banished by his cheerful disposition and sunny smile?

We have gained two new members and lost one, which leaves our present membership fifty-one.

Respectfully submitted,

GEORGE N. LAWSON,

Councilor.

New Haven County, Dr. William H. Carmalt, Councilor.

Mr. President and Members of the House of Delegates:

The census of the New Haven County Medical Association last year gave a membership of 319. Fifteen new members have been admitted, eight have died, giving the present number of 326.

The Treasurer reports having \$779.19 in savings banks, \$213.18 on deposit as checking account, a total of \$992.27.

The activities of the Association were indicated in the two meetings held respectively on October 1, 1919, and April 29, 1920. By the invitation of the President of the Association, Dr. David R. Lyman, the autumn meeting was held at the Gaylord Farm Sanatorium celebrating the fifteenth anniversary of its foundation.

The New Haven County Medical Association has reason to be proud of the success of this Sanatorium, under the wise superintendence of Dr. Lyman who has brought to it an untiring energy and tactful judgment that has made for it and for him an international reputation. Sent abroad by the National Government during the late war to advise the army surgeons having the care of soldiers attacked with tuberculosis, Dr. Lyman's opinions were largely sought by the Allied Governments also, and his advice adopted.

The Gaylord Farm Sanatorium is further a monument to two of our deceased members, Dr. J. P. C. Foster and Dr. C. W. Gaylord, the latter in making such a reduction in the price of the farm upon which he was born, that it amounted to a large gift, the former giving of his time and skill and sacrifices beyond words to its inception and development.

The Semi-Annual Meeting held there was most enjoyable. Aside from the social features which were characterized by proverbial Virginian hospitality the scientific programme was exceedingly interesting. It goes without saying that tuberculosis was the main theme discussed. Dr. E. R. Baldwin, the successor of Dr. Trudeau at Saranac Lake, whose name is a household word to us here, had a paper on the differential diagnosis of lung conditions usually confounded with tubercu-

losis. A paper by Dr. James B. Dinnan of the Undercliff Sanatorium at Meriden was read, illustrated by photographs: it also showed moving pictures of Dr. Rollier's Sanatorium at Leysin, Switzerland, with children playing about naked in the snow. Dr. Lyman's presidential address and a paper by Dr. Wheatley of New Haven both dealt with the subject of X-rays in the diagnosis of tuberculosis. Later Dr. Thomas R. Darlington of New York, chief medical adviser to the United States Steel Corporation, gave an illustrated talk demonstrating the financial advantages of sanitation and public welfare in industrial work.

The Annual Meeting held in New Haven at the New Haven Lawn Club was quite largely attended, nearly if not quite one-half of the entire membership being present. Valuable papers were read: Dr. Alexander of Waterbury on "Epidemic Encephalitis," Dr. Dye, also of Waterbury, on "Empyema as brought out by the Statistics of the Surgeon General's Office from the Late War." Dr. Gompertz of New Haven had a good paper on "X-rays in the diagnosis of Gastro-Intestinal Diseases," and Dr. Wm. J. Stone of New York City on "The Use of Radium in New Growths."

One-quarter of the membership of the Association sat down to the dinner afterwards. The unusually large attendance at these meetings indicates a gratifying interest in the work of the Association; how much this has been brought about by a broadening influence from war conditions is a matter for reflection.

The hospitals of the county are all in active work, but the high cost of living is felt perhaps more by them than by almost any other of our charitable institutions. Every public hospital throughout the country is appealing for funds to make up deficits in running expenses.

In the report of two years ago mention was made of the opening of the William Wirt Winchester Hospital for Tuberculosis as an adjunct to the New Haven Hospital, and of its being taken over by the United States Government for the care of tuberculous soldiers. With the close of the war the Government transferred this service from the War Department to the Public Health Service under the Treasury Department, for the care of discharged soldiers still dependent upon the Government for

disabilities from tuberculosis contracted in the service and allied diseases. The hospital is now administered as "The United States Public Health Service Hospital No. 41" under the charge of Major McKeon, U. S. P. H. S., with about the same number of inmates, viz., 500, more or less. As you see on the programme, Major McKeon has kindly consented to have a clinic held there during this meeting of the Society, to which he has invited the members. I can but advise those interested to take advantage of his courtesy.

Of our deceased members mention may be made especially of two of the older members, John F. Barnett of West Haven, who joined the Society in 1870, and Dr. Frank H. Whittemore of New Haven, who joined in 1877; their long and honorable careers endeared them to their patients and left many friends to mourn their loss. One can also speak of what may be considered the untimely end of two of our younger members, Dr. James B. Dinnan of Meriden, who had just inaugurated a promising career as Superintendent of the State Tuberculosis Sanatorium at Undercliff near Meriden: you have just heard a reference to his paper read at the fall meeting held at the Gaylord Farm Sanatorium. Dr. Donald G. Russell of Wallingford died of pneumonia overseas. He was a member of the Yale Mobile Hospital Unit of the American Expeditionary Forces. His father, our fellow member, Dr. W. S. Russell, who survives him, has our heartfelt sympathy.

Respectfully submitted,

W. H. CARMALT,
Councilor.

New London County, Dr. C. C. Gildersleeve, Councilor.

Mr. President and Gentlemen of the House of Delegates:

The membership of the New London County Medical Society is now sixty-eight. We have admitted four men: Joseph M. Klein, M.D., Paul Gadle, M.D., Thomas A. Woodruff, M.D., F. S. Wilcox, M.D. Six other physicians have been nominated for membership.

Our Semi-Annual Meeting was held at the William W. Backus Hospital, October 2, 1919, and was largely attended.

Dr. Graves, our President, was present. Dr. T. M. Hepburn of Hartford gave a paper entitled "Diagnosis of some Surgical Conditions of the Urinary Tract." The paper was illustrated by lantern slides.

Dr. J. M. Klein gave a paper on "Anæsthesia."

The 129th Annual Meeting of the New London County Medical Society was held at the Crocker House, New London, in April and was attended by about fifty members including President Graves. We also had the pleasure of greeting Professor Slemmons, Yale Medical School; Dr. J. T. Black, Commissioner of Health; Dr. Donaldson, Delegate, Fairfield County, and Dr. Lyons, Delegate, New Haven County.

The following papers were read and discussed: "Caesarean Section under Procaine Anæsthesia," by Morris J. Slemmons, M.D., Professor of Obstetrics, Yale University; "Headache," by L. J. LaPierre, M.D., Norwich; "Care of the New Born during the First Week," by C. F. Ferrin, M.D., New London.

Two sets of reels of an educational nature were shown by Dr. J. T. Black.

The New London County Medical Society puts itself on record as desiring a more stringent Medical Practice Act and one Board of Examiners of candidates for admission to practice medicine in the State of Connecticut.

The Society also unanimously voted to recommend to the Connecticut Medical Society "That the Secretary of the Connecticut Medical Society be paid a substantial and suitable salary."

The William W. Backus Hospital, Norwich, has had a very busy year, as has the Lawrence Memorial Hospital, New London. The past year has been a prosperous one for the New London County Medical Society, and peace and harmony prevail among its members.

Respectfully submitted,

CHAS. CHILD GILDERSLEEVE,

Councilor.

Tolland County, Dr. Thomas F. Rockwell, Councilor.

Mr. President and Gentlemen of the House of Delegates:

I am pleased to report the continuance during the past year of the pleasant and profitable social and professional relations which have always existed among the members of the Tolland County Medical Association.

The Association has at present a membership of fifteen, eleven taxable and four non-taxable.

It is with sincere regret that I have to report the death of our Vice-President, Dr. Alonzo L. Hurd of Somers.

Dr. Hurd was a native of Brownsfield, Maine. He attended Maine State College and then entered the University of Vermont, where he was graduated in 1891. Immediately upon graduation he settled in Somers, where he practiced continuously until his death, which occurred on November 9, 1919. He was sixty-one years of age. He was a man of sterling character and his death means a great loss to the Association as well as to the community in which he lived, and which he served so loyally. His obituary will appear in the record of the Proceedings of the State Medical Society.

The 127th Semi-Annual Meeting was held in conjunction with the twelfth Semi-Annual meeting of the Connecticut State Medical Society at Mansfield State Training School and Hospital, Mansfield Depot, Tuesday, October 21, 1919. After the reading of the minutes of the last meeting by the Secretary the reports of the officers and of the committees were heard. No new business was transacted.

Two very interesting and instructive papers were read: "The Care of the Feeble-Minded," by Dr. Charles T. LaMoure, and "Some Remarks on the Diagnosis of Mental Defect," by Dr. Arnold L. Gesell, Professor of Child Hygiene at Yale University. These papers were ably discussed by Dr. Paul Waterman, Dr. LaMoure and others.

There were present at this meeting about fifty members of the State organization and altogether it proved a most thoroughly enjoyable occasion, both from a social and a scientific standpoint.

The 128th Annual Meeting was held in Rockville on Tuesday, April 20, 1920, with a good attendance. We were glad to welcome Dr. W. R. Tinker of South Manchester, Delegate from Hartford County, who addressed the meeting. Dr. J. A. Higgins of Hartford, who was to read a paper on "Observations on Work of the Chest," was unable to be present so that the only paper read was by Dr. C. E. Peterson, D.D.S., on "Oral Hygiene in its Relation to Preventive Medicine." It was most interesting and instructive.

The Secretary reported all dues paid.

Respectfully submitted,

THOS. F. ROCKWELL.

Windham County, Dr. S. B. Overlock, Councilor.

Mr. President and Gentlemen of the House of Delegates:

Medical matters in Windham County have progressed in their usual orderly manner during the past year. Those members of the County Society who were in the service have returned and reassumed their place and practice. None were killed or materially crippled and they were welcomed back with due pride in their achievements by those who were not privileged to take as prominent a part as they in the service of the nation.

Two successful meetings have been held during the year. The Councilor makes the same well-worn complaint in regard to these meetings as has been made in former years. In a small society every member should make a full effort to be present at each meeting. The absence of only one member is appreciably noticeable where the membership is small. The full scientific programme should not be made up by a single paper given by some man not a member of the County Society. These papers from outside men are always profitable and interesting but should not be taken as an excuse by local men for not participating in the work of each meeting.

There has developed in certain parts of the county a condition that should be of interest to every inhabitant of the county both layman and physician. This is the lack of full and adequate

medical attendance for the rural communities. The epidemic of influenza of two years ago sharply accentuated this condition of affairs. No doubt, at that time, the absence of some of the practitioners of the county in the service made the condition more apparent, but the fact remains, that there are at present many localities that are not receiving proper medical service. Dr. Bowers, Secretary of the Massachusetts Board of Registration, stated that there are seventy-six towns in that state which are wholly without medical assistance. Within the limits of Windham County there are at least six towns in which no physician is located. One of these towns is near a larger place, from which good medical service can be obtained. The others are not so fortunately located. These towns formerly had one, and some of them two physicians, located and in active practice within their borders. What is true of Windham County is doubtless true of the other counties of the state in greater or less degree and what is true in Massachusetts is doubtless true of other New England states, hence it has seemed proper to include it in this report before the State Society.

Of the people who constitute these communities, the great majority are of moderate or limited means. Owing to this fact, when they secure medical attendance from other towns, if they are fortunate enough to do so, the fee that must be laid upon them for services, long distances traveled, and time consumed, is in many instances a genuine hardship for the patient or his immediate family. Under such circumstances, these people neglect or defer calling a physician unless the patient appears to be dangerously ill. Taking these facts into consideration, it can be readily seen that an apparently innocent sore throat may be the foundation of an epidemic of virulent diphtheria, entailing expense, suffering, and possible mortality upon the community, all of which might have been prevented, or at least modified, by adequate medical supervision.

In the larger centers many manufacturers have established in connection with their plants a hospital room with a nurse or physician, or both, in attendance for the care of employees. The larger centers have district nurses and some of the industrial insurance companies have nurses who regularly look after their

insured. All of this work is commendable both from a humanitarian and economic standpoint, but none of these reach the isolated communities. From these communities, composed almost entirely of old New England stock, have come, in the past, the men and women who have done the greater work of the nation. These communities deserve every care that is possible and one of their pressing needs at present is adequate medical service.

What can be done to remedy or modify these conditions? In Windham County the two public hospitals, though operating constantly above normal capacity, can care for the major surgical work and in part for the obstetrical needs of such communities within the borders of the county. For minor emergencies, ordinary illnesses, and contagious diseases, they are not in position to render efficient service. A resident physician in each community, alone, could do this. This, under existing circumstances, is not possible. The graduate of to-day does not locate in small towns as did his predecessor of fifty years ago. No blame can be attached to him for this. The pre-medical education, expanded medical course, together with a hospital internship, require so much more in time, work, and expense compared with fifty years ago, that the graduate in medicine of to-day must locate in the larger communities if he receive returns commensurate, financially and socially, with what has been expended in securing the qualifications to practice in the medical profession. To the men who have been at work for a quarter of a century, or more, who during that time have watched with deep interest the advances made in medical education and attainments, there can be no thought of relaxation in the present requirements and thus allowing men of mediocre attainments to enter the ranks of the profession. To the layman this might seem a solution but not to the medical profession.

No attempt at a solution is offered in this report. The subject must be of interest to all. The condition bids fair to become more pressing as time goes on.

Respectfully submitted,

S. B. OVERLOCK,

Councilor.

REPORT OF THE TREASURER.

DR. PHINEAS H. INGALLS, Hartford.

THE CONNECTICUT STATE MEDICAL SOCIETY, FROM
MAY 21, 1919, TO MAY 19, 1920.

RECEIPTS.

1919

May 21	Balance from old account	\$1,387.67
July 10	From O. C. Smith Fund	24.00
Sept. 13	Herbert Thoms, New Haven County	615.00
Oct. 9	P. F. McPartland, Hartford County	350.00
21	Herbert Thoms, New Haven County	141.00
24	A. B. Lambert, Fairfield County	350.00

1920

Apr. 17	A. D. Marsh, Windham County	67.50	
24	J. E. Flaherty, Tolland County	29.70	
May 2	H. B. Hanchett, Litchfield County	237.60	
	S. S. Campbell, Middlesex County	126.90	
4	H. B. Thoms, New Haven County	8.10	
9	A. C. Freeman, New London County	175.00	
11	C. B. Brainard, Hartford County	292.60	
13	H. B. Lambert, Fairfield County	71.20	\$3,876.27

DISBURSEMENTS.

1919

May 29	John E. Lane, expenses Annual Meeting ..	\$ 40.00
	James D. Gold, Anniversary Chairman	21.00
	Hotel Stratfield	9.15
June 9	The Tuttle, Morehouse & Taylor Company	31.37
	Miss J. G. Buhler, Stenographer	60.00
	Hazel J. Thompson, Stenographer	10.00
27	Marie Westermann, Clerical work	15.00
	John E. Lane, expense account American	
	Medical Association	38.93
	Walter R. Steiner, expense account Ameri-	
	can Medical Association	41.91
July 7	The Tuttle, Morehouse & Taylor Company	8.98
11	Litchfield County Medical Society, dues	
	from O. C. Smith Fund	9.00
	Middlesex County Medical Society, dues	
	from O. C. Smith Fund	6.00

	New Haven County Medical Society, dues from O. C. Smith Fund	\$	6.00	
	Windham County Medical Society, dues from O. C. Smith Fund		3.00	
Sept. 19	James F. Rogers, editing Proceedings		150.00	
Oct. 25	The Tuttle, Morehouse & Taylor Company		2,235.94	
27	Charles W. Gardner		5.00	
	Marie Westermann		2.50	
	Tolland County Medical Association, $\frac{3}{4}$ Annual Meeting		31.69	
Nov. 21	The Tuttle, Morehouse & Taylor Company		42.62	
	Frank H. Wheeler		10.53	
Dec. 9	Marie Westermann		5.00	
1920				
Jan. 7	P. H. Ingalls, Stamps		2.00	
	Phoenix Bank, Box Rent		5.00	
May 11	R. C. Knox, Treasurer's Bond		5.00	
	P. H. Ingalls, Salary		25.00	
	Case, Lockwood & Brainard		16.30	
	Elizabeth B. Clark		10.00	
	Hazel J. Thompson		20.10	
	John E. Lane, Salary and Expenses, American Medical Association		298.85	
	The Tuttle, Morehouse & Taylor Company		38.57	
	Walter R. Steiner, Expense Account, American Medical Association		127.86	
	Balance to new account		543.97	\$3,876.27

THE G. W. RUSSELL FUND.

	Balance on hand last report	\$1,685.07	
1919			
July 1	Coupons Railway and Lighting Co.	112.50	
	Coupons Consolidated Railway Co.	40.00	
	Coupons Gas Light Co.	20.00	
	Interest	33.70	
1920			
Jan. 1	Coupons Railway and Lighting Co.	112.50	
	Coupons Consolidated Railway Co.	40.00	
	Coupons Gas Light Co.	20.00	
	Interest	37.82	
	Balance on hand May 19, 1920	\$2,101.59	

The Fund consists of
 5 \$1,000 1st and Refunding Mortgage
 Bonds, Conn. R. & L. Co.
 2 \$1,000 50 year Debenture Bonds, Con-
 solidated Railway Co.
 1 \$1,000 1st Mortgage Bond, Hartford City
 Gas Light Co.

THE O. C. SMITH FUND.

	Balance on hand last report	\$113.34
1919		
July 1	Coupon Gas Light Co.	20.00
	Interest	2.26
1920		
Jan. 1	Coupon Gas Light Co.	20.00
	Interest	2.22
		<hr/>
		\$157.82
1919		
July 8	Withdrew to pay dues of indigent mem- bers	24.00
		<hr/>
	Balance on hand May 19, 1920	\$133.82

The Fund consists of
 1 1st Mortgage Bond, Hartford City Gas
 Light Co.

Respectfully submitted,
 P. H. INGALLS,
Treasurer.

HARTFORD, May 19, 1920.

This will certify that we have this day audited the accounts of the Treasurer and find them correct and the securities listed as above to be in his possession.

THOS. F. ROCKWELL,
 WALTER R. STEINER,
Auditors.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

DR. E. K. ROOT, *Chairman*.

Mr. President and Gentlemen of the House of Delegates:

In view of the fact that the legislature has not and will not meet during the continuance of this Committee, we have the honor to report that no meetings have been held and we have no recommendations to make to be submitted to the House of Delegates.

Respectfully submitted,

E. K. Root,
Chairman.

REPORT OF THE COMMITTEE ON MEDICAL EXAMINATIONS AND MEDICAL EDUCATION.

DR. ROBERT L. ROWLEY, *Secretary*.

Mr. President and Gentlemen of the House of Delegates:

Your Committee on Medical Examinations and Medical Education has had six meetings during the past year, three of which were for the purpose of conducting examinations and the other three meetings were for the purpose of reviewing the results of the examinations and recording the vote of the Committee as to the standing of each applicant.

There appeared before the Board for examination in July fifty applicants, in November thirty-seven applicants, and in March twenty-eight applicants, making a total of one hundred and fifteen. Two of these applicants took the examinations twice and two took the examinations three times during the past year, so that the one hundred and fifteen applicants represent a total of one hundred and nine persons. Ninety-six passed the examinations satisfactorily and were recommended to the State Department of Health for licensure. Thirteen persons failed to

pass the examinations. Of the thirteen, one had a Degree in Arts, two had one year in college and the others had no college education. Of the thirteen who failed to pass the examinations eight were graduated from medical colleges rated as "A" and five from medical colleges rated "B."

The Committee has given much thought during the past year to the subject of reciprocity with the boards of other states and with the National Board of Medical Examiners, but has adopted no change in its practice as relates to these matters.

The Committee has under consideration the formulation of a plan for allowing credits dependent upon the number of years of practice that an applicant has had; also a plan for assigning different valuations to the various subjects covered by the examinations, emulating in this respect the practice of the National Board of Medical Examiners.

The Committee wishes to make note of a change in the customary place for holding the examinations. For many years the examinations have been held in New Haven, but the facilities were hardly suitable when a large number of applicants appeared. We were fortunate in being able to obtain accommodations at the Capitol in Hartford, where our last two examinations have been conducted. From almost every standpoint this seems to be a desirable and logical place for our meetings.

At a meeting of this Committee in November a change in its organization was effected, through the resignation by Dr. Tuttle from the Secretaryship, after a record of twenty years of conscientious endeavor and active service in all matters pertaining to the elevation of the standards of medical education in this State. In accepting Dr. Tuttle's resignation as Secretary, the Committee was pleased to confer upon him the honor of Presidency of the Board.

Respectfully submitted,

ROBERT L. ROWLEY,

Secretary.

REPORT OF COMMITTEE ON SCIENTIFIC WORK.

DR. C. J. BARTLETT, *Chairman*.

The report of this Committee is before you in the form of the programme for this meeting. It should be added that, as usual, the work has practically all been done by our efficient Secretary, Dr. Lane.

Respectfully submitted,

C. J. BARTLETT,
Chairman.

REPORT OF THE COMMITTEE ON PUBLICATION.

DR. WALTER R. STEINER, *Chairman*.*Mr. President and Members of the House of Delegates:*

The Transactions of the Society were published as early as facilities for printing would allow. The Editor is indebted to the Secretary for doing a large share of his work. The promptness of most of the officers was also greatly appreciated. With such support by the officers, and barring delays in publication, the Proceedings should be in the hands of the members within four or five weeks of the date of the meeting. The Editor makes the suggestion that only those papers which are of local interest be incorporated in the Proceedings since papers of general interest would probably have a wider reading if published in one of the journals, and the Society would be saved the expense of publication.

Respectfully submitted,

WALTER R. STEINER,
Chairman.

REPORT OF THE COMMITTEE ON HONORARY MEMBERS AND DEGREES.

DR. E. K. ROOT, *Chairman*.*Mr. President and Gentlemen of the House of Delegates:*

The Committee on Honorary Members and Degrees beg to suggest the name of Dr. E. R. Baldwin of Saranac Lake, N. Y., as an honorary member of this Society.

Respectfully submitted,

E. K. ROOT,
Chairman.

REPORT OF THE COMMITTEE ON A SANATORIUM FOR THE NERVOUS POOR.

DR. FRANK K. HALLOCK, *Chairman.*

Mr. President and Gentlemen of the House of Delegates:

At last, after nine years of inaction, it would now appear that this Committee has an opportunity to accomplish the purpose for which it was created. In 1910, after laboring nine years, the Committee on a State Colony for Epileptics successfully finished its work by obtaining a charter and appropriation from the State Legislature for the establishment of such an institution.

Continuing the progressive policy which has always characterized our State Medical Society, a Committee on a Sanatorium for the Nervous Poor was appointed at the next annual meeting in 1911. At the same time two other special committees were created; one on the establishment of a State Farm for Inebriates, and the other a Committee on the Medical Inspection of Schools.

Owing in part to an awakened interest of the legal profession in the establishment of a State Farm for Inebriates, it was decided to focus the efforts of our State Society upon the work of this Committee and let the claims of the Committee on a Sanatorium for the Nervous Poor stand in abeyance until the Farm for Inebriates was an assured fact. After the State Farm was established, the State Sanatorium Committee was further delayed in presenting its claims by conditions due to the war.

As a result of National Prohibition it is reported that the State Farm for Inebriates in Norwich has comparatively few patients and it has occurred to your Committee that an appeal might be made to the General Assembly to convert this institution at Norwich into a State Sanatorium for the treatment of nervous invalids of limited means. Such an institution might simply be called "The State Sanatorium and Farm Colony." With reasonable care as to the admission of patients this institution might still include the treatment of inebriates and psychopathic individuals in addition to the larger class of neurasthenic and general invalids unsuited for the home or general hospital environment.

With this thought in mind the Chairman of this Committee

had a conference with Dr. John T. Black, Dr. Edward K. Root and Professor C.-E. A. Winslow, members of the State Board of Health. These gentlemen showed a gratifying interest in the proposition to convert the State Farm for Inebriates into a State Sanatorium for the Nervous Poor, but also called attention to the fact that a Connecticut Infirmary Commission had been appointed in May, 1919, "to investigate the need for the establishment of an infirmary under State control for the care and treatment of the following classes of persons: diseased, deformed and incurable persons for whom no treatment is available in the existing institutions; indigent and aged persons; the poor from such towns of the State as have no almshouse or are insufficiently equipped to care for them properly; State paupers as described in Sections 1642 and 1643 of the General Statutes."

It would seem advisable for the Committee on a Sanatorium for the Nervous Poor to coöperate to the fullest extent with the Connecticut Infirmary Commission and perhaps request this Commission to include in their plans the establishment of a Sanatorium for the Nervous Poor. At least two reasons would favor such action on the part of your Committee; one is the economic necessity for the State to systematize and unify its methods of institutional care and treatment of the sick, and the other is the well-known fact that a strictly medical committee always has great difficulty in persuading the legislature to grant its request. With the exception of Dr. Black, State Health Commissioner, the Connecticut Infirmary Commission is composed entirely of laymen.

The Chairman of your Committee further consulted Mr. Charles P. Kellogg, Secretary of the State Board of Charities and member as well of the Connecticut Infirmary Commission. Mr. Kellogg was disposed to view favorably the establishment of a Sanatorium for the Nervous Poor and made the suggestion that in case the State Farm for Inebriates at Norwich was not available, and in case the Sanatorium ought not to be closely connected with the State Infirmary, that possibly the Mystic Oral School might be found suitable. He stated that with the

completion of the new American School for the Deaf at West Hartford the Mystic Oral School would be discontinued and this property of the State would thus become available for other purposes.

Altogether it now would seem that your Committee on a Sanatorium for the Nervous Poor has an excellent opportunity in one way or another to fulfil its purpose and become a factor in the establishment of a State Institution which is greatly needed.

Respectfully submitted,

FRANK K. HALLOCK,

Chairman.

(It was voted that this Committee be continued.)

REPORT OF THE COMMITTEE ON THE HISTORY OF THE MEDICAL PROFESSION OF CON- NECTICUT IN THE WORLD WAR.

DR. FRANK H. WHEELER, *Chairman.*

Mr. President and Members of the House of Delegates:

Your Committee on the History of the Medical Profession of Connecticut in the World War did not, at first, appreciate the magnitude of the task which you gave them one year ago.

We found that we must first of all get a complete list of all the men who had received commissions from the United States Government and were accredited to this State; next a list of all who were appointed on the various examining boards and finally a list of those who had been enrolled in the Volunteer Medical Service Corps.

The second and third lists were comparatively easy to obtain. That of the men who had received commissions was much more difficult. It necessitated comparing and checking up many fragmentary lists and a considerable correspondence. All this took much time and the hard and busy winter interrupted us. The getting of addresses is still going on but we now have a list

which we think approximates perfection though it is yet undergoing minor revisions.

It contains 503 names and the post office addresses of all but about twenty.

In order to get reliable statistics we had to communicate with each individual. For this purpose we sent out a form letter and a questionnaire, which was to be filled in and returned. (A copy of each is here appended.) Four hundred and eighty-two of these have been mailed and the balance will be sent out as soon as we get the addresses.

Three hundred and thirty-one questionnaires have been returned, leaving 151 still to come. They are coming in all the time, slowly. We propose to ultimately have them bound in book form and deposited in some secure place as the Society may determine.

It is probable that this report will contain the only available record of the medical men of this State who did their part in helping to win the great war. It is desirable, therefore, that it be made as complete as possible. About 170 men are still to be heard from and very little has been done toward collating the statistics gathered.

Your Committee would therefore respectfully request that this report be accepted as one of progress and that the Committee be continued to make their final report at some future time.

FRANK H. WHEELER,
D. CHESTER BROWN,
GEORGE BLUMER,
WALTER R. STEINER,
JOHN E. LANE.

COMMITTEE
FRANK H. WHEELER, M.D., CHAIRMAN
NEW HAVEN
D. CHESTER BROWN, M.D.
DANBURY
GEORGE BLUMER, M.D.
NEW HAVEN
WALTER R. STEINER, M.D.
HARTFORD
JOHN E. LANE, M.D.
NEW HAVEN

COMMITTEE ON THE HISTORY
OF THE
MEDICAL PROFESSION OF CONNECTICUT
IN THE
WORLD WAR

ADDRESSES ALL LETTERS TO
FRANK H. WHEELER, M.D.
27 PERKINS STREET
NEW HAVEN, CONNECTICUT

NEW HAVEN, CONN., Nov. 1, 1919

The Connecticut State Medical Society appointed this committee to collect the data and put on record all the facts regarding the participation of the Medical Profession of the State of Connecticut in the World War. This is to include the war activities of the entire profession of the State whether members of any medical society or not.

The work of those who, though officially connected with the Government, had their activities confined to home localities is just as important as the work done by those who were sent overseas and should be just as fully explained.

All the data must be obtained by personal communication as the lists at Washington, formerly available by states, are no longer filed in that manner.

It is urgently requested that every medical man and woman in the State assist the committee in making this a full and complete historical record, that future generations may know of the great work done by the Medical Profession in this War.

The Committee asks you to kindly fill out the enclosed questionnaire, at your earliest convenience, and mail it in the enclosed envelope.

STATE OF CONNECTICUT.

QUESTIONNAIRE ON MEDICAL ACTIVITIES IN THE WORLD WAR.

1. Name 2. Date of birth
3. Present address
4. Address when commission was applied for
5. Graduate of what college
6. Year of graduation
7. In what state did you apply for a commission?
8. Where were you examined?
9. Date commission was issued
10. When commissioned were you licensed to practice in Connecticut?
11. If so, how long had you been in practice?
12. Were you a hospital interne?
13. If so, in what hospital?

14. Branch of Service entered
15. Rank designated in Commission
16. If promoted, give rank and date
17. Date of discharge
18. If cited or the recipient of any distinguished reward, name it and quote the official announcement

On this page (and the next if required) give a complete sketch of your activities.

Suggestions for the sketch: date entered service; training camp in; what army in (American, English, French, etc.). If at the front, what sector; what battles in; if wounded. If in hospital work, name and location; specialty, if any. If transport service, vessel on; ports used. If in some special work, describe it. If in Red Cross, etc., give nature of work and place. Any interesting or unusual experiences you had.

(It was voted that the recommendations of the Committee be adopted and the Committee continued.)

REPORT OF THE COMMITTEE ON MEDICAL INSPECTION OF SCHOOLS.

DR. E. W. GOODENOUGH, *Chairman.*

Mr. President and Members of the House of Delegates:

The Department of Child Hygiene in the State Board of Health, the Special Child Hygiene Commission and the Connecticut Society of Child Hygiene are all ready for us to gain through them a fuller grasp of the public-school health possibilities. The newspapers and popular magazines have frequent articles on health matters. The public is ready, under the leadership of the physicians of the state, to make yearly increase in school health work. All good private schools and colleges have thorough medical examinations and medical control of sanitation.

Yale and other medical centers will soon be ready to give us, every year, nurses and physicians who have had training in public health. In all the larger towns and cities, it is up to us to see that the offices of health control are filled with physicians and nurses who have had special instruction, and, at their head, someone with executive ability to see that every means of health improvement toward school children is used. The examination

of such children will not then be perfunctory. What a chance to lessen disease!

At present the industrial unrest affects all classes. There is a shortage of labor and we are all affected. Every optimistic family is an oasis in the present unrest. Child health increases this optimism. Ten years from now, or even in less time, increased health power of the children now in public schools will increase both the number of workers and the optimism. Teachers and supplies cost so much that efficient physicians and nurses in school work, thoroughly trained and interested in their work, will add a very small proportionate increase to state school expense.

Your Committee seeks your help to influence the organizations here mentioned to make efficient use of School Hygiene.

This Committee has been in communication with the organizations mentioned. Their work at present is especially directed toward the state care of defective and dependent classes. Systematic and thorough examination of school children with school records of physical and mental advancement furnish part of the evidence upon which the state should act.

Your Committee recommend a change in title to conform to the larger needs of health work among children. We are satisfied that more than medical inspection is needed. We ask the appointment of a new committee in conformity with the new view of the Committee's duties.

Respectfully submitted,

E. W. GOODENOUGH,

Chairman.

The Secretary read a letter from Dr. Frederick R. Green, Secretary of the Council on Health and Public Instruction of the American Medical Association, and one from Dr. John M. Dodson, Chairman of the Sub-Committee of the Council on Health and Public Instruction of the American Medical Association, suggesting some change in the scope of the work of the Committee. It was voted that a committee of three be appointed

by the President to consider the recommendations contained in the Report of the Committee on the Medical Inspection of Schools and in the letters of Drs. Green and Dodson, said Committee to report to the House of Delegates on Thursday.

The President appointed on this Committee Drs. E. W. Goodenough, Chairman, J. F. Rogers, and W. R. Steiner.

REPORT OF THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

DR. JOHN E. LANE AND DR. WALTER R. STEINER, *Delegates.*

Mr. President and Gentlemen of the House of Delegates:

The Victory Meeting of the American Medical Association was held in Atlantic City, June 9 to 13, 1919. As the complete report of that meeting has already been published it is necessary here only to mention briefly a few of the most important subjects considered by the House of Delegates.

The meeting was large and enthusiastic, and many distinguished representatives from the countries of our Allies were present.

The address of the President-elect, Dr. Alexander Lambert, dealt with narcotic drug addiction and closely related subjects, and the House of Delegates appointed a Committee to coöperate with the Council on Health and Public Instruction in studying the narcotic drug situation.

The Committee on Social Insurance made an exhaustive report and recommended that the study of this problem be continued.

The House of Delegates endorsed a plan for a mid-winter meeting of Secretaries of the State Societies and expressed the desire that the State Societies actively coöperate in making this meeting a success. This is an euphemistic expression of the hope that the State Societies will bear half of the expense of sending their Secretaries to the meeting.

It may be of interest to members of this Society to know that Dr. Paul Waterman of Hartford was appointed a member of the Special Committee to study the narcotic drug situation, and that one of your Delegates was appointed a member of the Com-

mittee on Reports of Officers; but the point of chief interest to the Society is that the insignificant town of Danbury has risen to such prominence in the American Medical Association, that it is now used as synonymous with Connecticut in the House of Delegates. This fact is due to the popularity attained in that body by a citizen of that town, Dr. D. Chester Brown.

Dr. Brown, in 1918, was elected a Member of the Board of Trustees to fill the unexpired term of the late Dr. McKnight. At the last meeting he was unanimously reëlected to succeed himself. Not only was he reëlected, but he was the only nominee of the House of Delegates for that position. Not only was he the only nominee, but he was unanimously nominated. When nominations for the position were called for, members of the House of Delegates from all sections of the country were on their feet, striving to get the floor in order that the honor of first putting his name before the body might be theirs. This was abundant evidence of the appreciation of the work that he has done for the American Medical Association, but it deprived your Delegates of the usual duty of making speeches setting forth the claims for recognition of their nominee.

Respectfully submitted,

J. E. LANE,
WALTER R. STEINER,

Delegates.

REPORT OF THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

DRS. WALTER R. STEINER AND JOHN E. LANE.

Mr. President and Gentlemen of the House of Delegates:

New Orleans showed that the so-called Southern hospitality was no myth, for the Crescent City fairly outdid itself in looking after the members of the American Medical Association. The meetings of the House of Delegates were held in the hall of the New Orleans Parish Medical Society and at the first session the reports of the officers, and standing and special committees took

up most of the allotted time. In the afternoon the reports of more committees and new business consumed the time for this session while on the following day, in two sessions, the reports of some of the reference committees were considered along with unfinished and new business. The election of officers was the first order of business on the afternoon of the fourth day and the fifth session of the House of Delegates. As most of you know, the President-elect was chosen in the person of Dr. Hubert Work, of Pueblo, Colo., who by his efficient and impartial conduct in the office of speaker, had endeared himself to many members of the American Medical Association. He had also served as a Delegate from Colorado for twelve years and had been speaker of the House of Delegates for four more. The Constitution and By-Laws were amended this year, at the last session, so now only one vice-president is elected instead of four as formerly. Dr. Isadore Dyer, of New Orleans, received this honor. In place of Dr. Philip Marvel, of Atlantic City, Dr. Charles W. Richardson, of Washington, was elected as trustee and on the standing committee of the Council on Scientific Assembly Dr. Lane, the senior Delegate from this Society, received an appointment. He also served on the reference committee on Legislation and Political Action, while the junior Delegate, Dr. Steiner, was made a member of the committee to prepare suitable resolutions asking Congress to publish as soon as possible the medical and surgical history of the World War. The revision of the Constitution and By-Laws as proposed by the Judicial Council was adopted after certain alterations were made as suggested by the Committee on Amendments to the Constitution and By-Laws. The scope of the Council on Medical Education was enlarged by adding the words "and Hospitals" while the addition of the word "and Syphilology" was adopted for the Section of Dermatology. The reports of the various committees as well as the addresses of the officers have been printed in the Journal of the American Medical Association for May 1 and May 8 and merit one's perusal, especially that of the Committee on the Narcotic Drug Situation in the United States. Dr. Paul Waterman, of Hartford, was a member of this committee.

Your delegates were able to attend most of the scientific sessions of the sections of Dermatology and Practice of Medicine and can testify that they maintained the high standards set at other recent meetings of the Association. The entertainments were lavish and the memories of the New Orleans session will be frequently and pleasantly recalled by both of us.

Respectfully submitted,

WALTER R. STEINER,
J. E. LANE.

REPORT OF THE COMMITTEE ON HOSPITALS.

DR. PHILIP W. BILL, *Chairman.*

Mr. President and Gentlemen of the House of Delegates:

The Committee on Hospitals has had a number of meetings during the year; the last one, held in New Haven, was attended by all the members. At that meeting was drawn up a report for presentation to the Council of Education of the American Medical Association.

In the summer of 1919 the American Medical Association, through its Council of Education, requested your Committee to inspect and report on such hospitals of the State as had or desired internes. The features considered were the amount of work done, number of beds, kinds of service, etc., the keeping of the records of cases, the teaching and control of the internes by the attending staffs and the amount of work and time given the hospital by the attending staffs.

The hospitals were divided among the members of the Committee and nearly all the hospitals reported on were visited personally by some member. While all the hospitals showed a willingness to try to improve their services and all were showing improvement, with one or two exceptions they are still below the requirements demanded. The largest field for improvement lies in the work of the attending staffs in their teaching relation to the internes and to all appearances this phase will be brought up to the standard.

The question of the hospitals offering a course of training for nurses which shall be shorter in duration, not so bookish and with a diploma different from that given for the regular course for the R.N. Degree is a most important one. At present the small number of nurses graduated and the expense of their services afterward deprive a majority of the deserving sick of the care they should have.

The Committee will be very glad to offer any data and suggestions it may have to improve conditions.

Respectfully submitted,

PHILIP W. BILL,
Chairman.

REPORT OF THE COMMITTEE ON THE RECOMMENDATIONS CONTAINED IN THE REPORTS OF THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION, THE WAR COMMITTEE AND THE COMMITTEE ON NATIONAL LEGISLATION.

DR. D. CHESTER BROWN, *Chairman.*

Mr. President and Gentlemen of the House of Delegates:

There were six recommendations in the reports referred to your Special Committee.

1. The recommendation of the War Committee was acted upon by the House of Delegates last year and a Committee on the History of the Medical Profession of Connecticut in the World War was appointed. No further action is needed on the recommendation.

2. The desirability that the Secretary of the County Society be a member of the House of Delegates of the State Society.

The principle involved is endorsed by your committee. Two methods of adapting it were considered:

a. That it be recommended to the County Society as a desirable proceeding and leave it to their discretion to comply with it or not.

b. To amend Chapter 3, Section 1, of the By-laws by adding the words (and the Secretary of each County Society), so that it shall read, "ex-officio, the President and Secretary of this Society" (and the Secretary of each County Society), thereby making the County Secretaries members, ex-officio of the House of Delegates without the right to vote.

The Committee recommends that the House of Delegates decide on which method shall be adopted.

3. Closer contact of the Delegates to the American Medical Association with the Board of Councilors, the State Licensing Boards, and the Committee on Public Policy and Legislation.

It is recommended that the Delegates to the American Medical Association be informed by the above three committees when any matter is to be considered by them that will interest the delegates officially and that the Delegates be invited to meet with this committee and participate in the consideration of such matters.

4. The Committee on National Legislation a member of the Committee on Public Policy and Legislation.

We recommend that the By-law, Chapter VIII, Section 3, be amended by adding the words in the third line, (and the Committee on National Legislation) so that it shall read: The Committee on Public Policy and Legislation shall consist of one member from each component association, and the President and the Secretary and the Committee on National Legislation.

5. Special reports, of the Delegates to the American Medical Association and the Committee on National Legislation, to the General Assembly.

We recommend that special reports by the Delegates to the American Medical Association or the Committee on National Legislation be submitted to the Committee on Scientific Work and at its discretion shall be incorporated in the Scientific programme as provided for in the By-law under "discussion and other business."

6. The advisability of taking any action at the present time relative to the requirements to practice the healing art.

Inasmuch as at present the civil administrative code commission of the State is considering such matters and has asked that a committee be appointed to confer with them;

We recommend that the Board of Councilors present nominations for a committee of five or seven with power to act, to represent the Society before the Administrative Code Commission, and then to take the matter up with the Committee on Public Policy and Legislation.

Respectfully submitted,

D. CHESTER BROWN,
Chairman.

It was voted to adopt the recommendations contained in Sections 2, 3, 4, and 5, of this Report. Section 6 of the Report was then discussed.

Dr. A. E. Austin explained at some length the history of attempts at revising the Medical Practice Act which had previously been made and made a plea that instructions be given to the Committee which Dr. Brown had recommended, that some action be taken, and a report made at a specified time, this report to contain the draft of an act which would correlate all the medical practice acts of the state.

Dr. J. F. Calef agreed with what Dr. Austin had said and heartily favored the appointment of a committee to consider the matter thoroughly and to report to the House of Delegates at the Semi-Annual Meeting if possible.

Dr. Hallock spoke in favor of having this work done as far as possible through the committee.

It was voted that the Councilors present nominations for a committee of five or seven on Requirements for the Practice of Medicine at the session on Thursday.

On motion of Dr. Brown it was voted that the Secretary be instructed to read a letter from General Ireland before the General Assembly, requesting those who have been in service and are eligible to become members of the Association of Medical Veterans of the World War, and to organize a state branch.

(As Dr. Brown was not present at the Session of the General Assembly and as the Secretary was unable to procure a copy of the letter referred to elsewhere, this letter was not read.)

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE.

DR. WILLIAM R. MILLER, *Chairman.*

Mr. President and Gentlemen of the House of Delegates:

Your Committee begs to report progress and asks for its continuation during the coming year.

Respectfully submitted,

W. R. MILLER,
Chairman.

The report was not read at the meeting.

As this Committee has taken no action for three years and presented no report this year it was voted that the Committee be discontinued. (For further action in regard to this Committee see minutes of Thursday's session.)

REPORT OF THE COMMITTEE ON HEALTH INSURANCE.

DR. C. J. FOOTE, *Chairman.*

Mr. President and Gentlemen of the House of Delegates:

Your Special Committee on Health Insurance submits the following report:

This Committee was appointed at the last annual meeting of the Society in response to a recommendation in the Secretary's Report, that a special committee be appointed "for the study of health insurance in order that the Society may be prepared, if necessary, to protect our interests at the next session of the legislature."

Before presenting its report the Committee believes it desirable to give a brief review of the previous action of the Society in regard to health insurance.

In 1915 Dr. McKnight, Chairman of the Committee on Public Policy and Legislation, received information that a bill providing

for compulsory health insurance of wage earners would be presented to the General Assembly at its session of 1917. His Committee thereupon appointed a sub-committee to make a careful study of this subject. The report of this sub-committee is published in the Proceedings of the Society for 1916 and recommended in brief that the Society give thorough study to this subject for the purpose of developing a definite and well-advised policy to govern its attitude toward the enactment and application of laws on health insurance, and that the sub-committee inform both itself and the members of the Society as fully as possible on this subject. The report of the sub-committee to the Annual Meeting of 1917 indicates that the programme of study was not fully carried out on account of the war, but the two bills embodying health insurance that were introduced in the General Assembly were referred to a Commission for study and to report upon to the next session, your Committee having recommended this action and having stated at the public hearings that the measure would modify social machinery to such an extent that it ought to receive the fullest consideration before being put into effect, but that, if enacted, the physicians of the State would do their utmost to fulfil the rôle assigned to them, however much it might conflict with their personal inclination or their social judgment.

This Commission on Public Welfare, appointed by the Governor, to which the bills on Health Insurance and other matters were referred, submitted its report to the 1919 session of the General Assembly and no further action was taken by the legislature on the subject of health insurance. This report was quite evidently based upon a thorough study of the subject and will well repay careful reading by all physicians. Your attention is especially invited to the conclusions of this Commission:

"We must grant that some of the arguments presented to us in favor of a compulsory measure appeal strongly to humane sentiment, and are convincing to the extent that more should be done by the state to improve living conditions and prevent disease; but they have not brought conviction to our minds that any of the measures heretofore presented should be enacted

in Connecticut. Upon the evidence which has been presented to us and after a careful study of investigations made elsewhere, we feel that our state should not be the first in the United States to experiment with a plan or system which has not operated effectively and satisfactorily in other countries, and which must of necessity involve the expenditure of a large amount of money,—too large a burden to be imposed at the present time. It may well be that this state should now improve and extend the code under which the Department of Public Health and Safety operates, so that health and sanitation may be more efficiently safeguarded. So may the compensation law be amended to cover occupational disease and thus aid in reducing the loss resulting from sickness. These changes can be made in harmony with our principles of government, and the correctional and curative features of the social insurance scheme may be incorporated in our laws without placing the state in any way in the field of social insurance. It may also be that some plan can be devised by which the insurance features of the social insurance scheme, which after all are only palliative, may be economically administered under rigid state supervision and control. In our opinion this time has not arrived, and for the reasons hereinbefore stated, the General Assembly may, with entire propriety, postpone further legislative consideration of this phase of social insurance until the changes in our national, state and personal relations resulting from the war have been fully readjusted.”

Your Committee believes that it can best serve the interests of the Society no less than of the State by adopting as its own the conclusions of the Governor’s commission. We believe that compulsory health insurance as now in effect elsewhere and as now proposed here is not in harmony with fundamental American principles; that arguments from European experience are apt to mislead us; that the American people are individualistic in all their thoughts and tendencies; that a paternal form of control of their activities, in a matter so vital as determining who shall care for them in sickness, would soon become extremely irksome to them; that individualism is the cornerstone of our

national success, and that a scheme so socialistic in its nature as compulsory health insurance would tend to stifle our development; that while the ills are great and many that health insurance promises to cure, it does not and cannot cure them and that the remedy would be worse than the disease; that the practical obstacles to its efficient application render its theoretical benefits unattainable.

Your Committee, however, see clearly that the motive behind those who urge health insurance springs from humane sentiments, and a desire for less illness, less poverty and dependency, and better living conditions for the working man. They state facts that we cannot ignore. Some of these are briefly as follows: Many patients are deprived of the use of modern scientific methods in the diagnosis and treatment of disease because of the cost; there are a considerable number of cases of illness in every community that do not receive the services of a physician and when such cases have contagious diseases they are a great menace to the health of the community; there is a great amount of poverty and dependency much of which can be attributed to disease affecting the bread winner of the family. As an example of the facts brought out by the State commissions appointed to investigate such conditions, your Committee quotes a few sentences from the report of a committee on health insurance appointed by the Pennsylvania legislature. According to this report, in Pennsylvania there are hospital accommodations for a little more than one-half of the minimum amount of illness among the workingmen (3.1 to 1000)—one-quarter of those disabled by sickness never receive medical care—the cost of ward beds in a hospital is beyond the means of one-half of the workingmen who are ill—only about 30% of the workingmen have any health insurance—40 to 60% of the poverty in a State is due to disease.

What then is the medical profession going to do about it? Are the conditions in Connecticut better or worse than in Pennsylvania? We cannot know until a commission is appointed, with funds at their command to make a thorough investigation into the diseases, and their causes, among the workingmen of the State.

It is quite possible that a large percentage of illness is occupational and could be prevented by the application of sanitary regulations. It is quite possible that much illness is due to the high cost of living, the poor quality of food, insanitary housing, and ignorance of the fundamental laws of hygiene. It is probable that an exhaustive research by a competent commission would find a means of reducing the morbidity among workingmen. This should be tried before any costly health insurance programme is adopted. But while such a legislative investigation is desirable for the State as a whole, it is of great interest that certain small areas of it will have an intensive study through the community health centers which it is hoped will be established in many cities in the state. Your Committee believes that these health centers offer great possibilities in discovering the causes of disease in the workingman, in locating cases of illness that have no medical attendant, in teaching personal hygiene to the ignorant, and improving the living conditions of the poor. These centers are not fostered by the State but are the product of the personal initiative of the more intelligent people of the country to meet a need. If they are conducted in a humanitarian spirit they will go far toward solving many of the problems for which health insurance is recommended and in so doing they will in no way encourage pauperism and dependency.

It is to be noted in the Pennsylvania report that the bed accommodations in hospitals were entirely inadequate and that the charges were more than one-half the workingmen who were ill could pay. This point should be investigated in this State and an attempt made to rectify the difficulty.

But the State should not only seek the causes of disease in the workingman, it should also place within his reach, and not only within his reach but in the reach of all those who are poor or in moderate circumstances, all the best modern methods of diagnosis and treatment. These should not be given to them but each patient should pay a fee within his means. A method of dealing with this question has been suggested by Dr. M. M. Davis, Jr., which he calls group medicine. This is nothing more nor less than a dispensary equipped with all the best scientific

apparatus for the diagnosis and treatment of disease and presided over by skilled specialists.

Several such dispensaries might be located in various places in the State, the places being selected with reference to the number of workingmen and the amount of illness. As an adjunct to these methods the workingmen themselves should be encouraged in every possible way to form lodges and sick benefit organizations of their own.

Your Committee has outlined two or three ways of dealing with certain problems which have been brought before the public by those favoring health insurance. These methods are not revolutionary, they do not try to change the relation of the physician to the public, they do not make certain sick people the wards of the State, but they teach self-support, self-dependency, self-reliance—they leave the physician an independent being and the patient also; they encourage scientific medicine; they do not require the establishment by the State of a large fund of millions of dollars, presided over by a bureaucratic commission, with all the temptations to graft that go with such funds.

These being our beliefs, your Committee recommends: That it be the opinion of the Society that compulsory health insurance, as hitherto in force elsewhere and as proposed here, is not needed in this State and that its establishment would be harmful to the Society, to the practice of medicine, and to the people and State of Connecticut; that a Special Committee on Health Insurance be continued for the purpose of studying the subject, of advising the Society and its members thereon, and, in coöperation with the Committee on Public Policy and Legislation, of representing the interests of the Society in all public and legislative relations thereof.

Your Committee feels compelled to bring to your attention one other aspect of this subject. In the report of the Governor's Commission it is noted that in their desire to obtain the opinions of physicians they sent a questionnaire to all physicians within the State, to which only about thirty per cent responded; to the question "What suggestions have you to make as to how

the problem of adequate medical service can best be handled to serve the interest of the State, the physicians, and the sick of limited means?" less than half of the physicians who did respond either had no suggestion to offer, or expressed the opinion that things were all right as they were. Not more than a dozen took sides for or against compulsory health insurance and the Commission comments that "the replies of not a few indicated that they did not look beyond their own immediate practice." The State has a right to appeal to physicians for advice on all matters of public health and physicians have an obligation to respond to such a request. A repetition of such manifest unpreparedness or indifference might result in serious disadvantage to the interests of both the State and the practice of medicine; it would certainly disincline the State to listen to our arguments or pleas after action has been taken. Your Committee therefore further recommends that the Society request each County and City Society to devote one Meeting in the year to the discussion of compulsory health insurance and that this Committee be directed to provide well-informed speakers for such meetings, on request.

Respectfully submitted,

C. J. FOOTE, *Chairman*,
W. H. DONALDSON,
CHAS. CHILD GILDERSLEEVE,
DAVID R. LYMAN,
H. S. F. LOCKE,
ELIAS PRATT,
EDWARD K. ROOT,
PAUL WATERMAN,
FRANK H. WHEELER,

Committee.

The Secretary read the following letter from the New Britain Medical Association:

NEW BRITAIN, May 14, 1920.

*Connecticut State Medical Society,
John E. Lane, Secretary.*

Dear Sir:

At a regular meeting of the New Britain Medical Association held April 7, 1920, the following resolution was unanimously adopted, after careful consideration of all data obtainable relating to this subject:

Resolved:—That the New Britain Medical Association is opposed to any attempt to legislate in favor of compulsory health insurance.

The Secretary was instructed to forward you a copy of this resolution.

Thanking you for any aid you may lend in furthering the ends of the above resolution, we remain,

Respectfully yours,

THE NEW BRITAIN MEDICAL ASSOCIATION,

JOSEPH ROBINSON, *President.*

GEO. W. DUNN, *Secretary.*

Dr. C. V. Calvin reported that the Fairfield County Medical Society at its last meeting voted its opposition to compulsory health insurance.

Dr. A. C. Freeman said that the New London County Society was also opposed to compulsory health insurance.

On the motion of Dr. Ives it was voted that the House of Delegates endorse the recommendation of the American Medical Association opposing compulsory health insurance.

The meeting adjourned until 10:00 o'clock the following morning.

SECOND SESSION.

The second meeting of the House of Delegates was held at the New Haven County Medical Association Building, New Haven, on Thursday, May 20, 1920, at 10:45 A. M. The following officers and delegates were present during the session: President, C. B. Graves; Vice-President, F. H. Wheeler; Secretary, J. E. Lane; Councilors, F. W. Stevens, Fairfield County; W. R. Steiner, Hartford County; G. N. Lawson, Middlesex County; W. H. Carmalt, New Haven County; S. B. Overlock, Windham

County. Delegates: Fairfield County—C. C. Godfrey, J. W. Avery, C. V. Calvin, C. J. Levery; Hartford County—No delegates present; Litchfield County—No delegates present; Middlesex County—J. F. Calef; New Haven County—E. T. Bradstreet, B. A. Cheney, C. A. Tuttle, H. Thoms; New London County—A. C. Freeman, W. K. Tingley; Tolland County—No delegates present; Windham County—C. E. Simonds, A. D. Marsh.

The following officers and committees were unanimously elected after opportunity had been given for nominations other than those made by the Council: President, George Blumer; Vice-Presidents, W. H. Judson, W. H. Donaldson; Secretary, C. W. Comfort; Treasurer, P. H. Ingalls; Committee on Scientific Work, E. A. Wells, F. H. Barnes, the Secretary; Member of Committee on Medical Examinations and Medical Education, C. A. Tuttle; Committee on Public Policy and Legislation, E. K. Root, C. C. Gildersleeve, W. H. Donaldson, R. S. Goodwin, C. J. Foote, C. E. Simonds, James Murphy, T. F. O'Loughlin, The President, The Secretary; Committee on Honorary Members and Degrees, C. J. Bartlett, E. T. Bradstreet, C. B. Graves; Delegate to the American Medical Association for 1921-22, W. R. Steiner; Alternate Delegate to American Medical Association for 1921-22, F. K. Hallock.

It was voted that the recommendation of the Council, that the dues for the ensuing year be \$3.00, be adopted.

It was voted to adopt the recommendation of the Council, that the Semi-Annual Meeting be held on Thursday, October 14, at the Connecticut State Hospital, Middletown, in conjunction with the Semi-Annual Meeting of the Middlesex County Medical Association.

It was voted to adopt the recommendation of the Council, that the next Annual Meeting be held on Wednesday and Thursday, May 18 and 19, 1921, at Hartford.

The Councilors nominated the following Committee on Requirements for the Practice of Medicine, to represent the Society before the Civil Code Commission and to confer with the Committee on Public Policy and Legislation in regard to matters connected with the enactment of a new medical practice act:

D. Chester Brown, Chairman, George Blumer, J. C. Rowley, A. E. Austin, F. H. Barnes, George M. Smith, C. B. Graves.

This Committee was unanimously elected with power to act.

The Committee appointed by the President to consider the recommendations contained in the Report of the Committee on the Medical Inspection of Schools and in the letters of Drs. Green and Dodson reported as follows:

REPORT OF THE COMMITTEE TO CONSIDER THE RECOMMENDATIONS ON MEDICAL INSPEC- TION OF SCHOOLS.

Your Committee to Consider the Recommendations of the Committee on Medical Inspection of Schools, and the suggestion made by the Sub Committee of the Council on Health and Public Instruction of the American Medical Association beg leave to report:

We recommend a change in the title of the Committee to conform more fully with a larger appreciation of the needs of a school health work, to "Committee on Health Problems in Education." For this Committee we would suggest the following names: Dr. E. W. Goodenough, Chairman, Waterbury; Dr. C. J. Foote, New Haven; Dr. LeRoy A. Wilkes, Bridgeport; Dr. H. W. Brayton, Hartford; Dr. Daniel Sullivan, New London.

Respectfully submitted,

E. W. GOODENOUGH,
W. R. STEINER,
J. F. ROGERS.

The following Committee was elected and given power to act: Committee on Health Problems in Education, E. W. Goodenough, Chairman, C. J. Foote, H. W. Brayton, Daniel Sullivan, L. A. Wilkes.

D. Chester Brown was elected the Committee on National Legislation.

The following Committee on Hospitals was elected: P. W.

Bill, Chairman, 1921 (term expires), W. R. Steiner, 1921, Wilder Tileston, 1922, H. F. Brownlee, 1922, Daniel Sullivan, 1923, S. B. Overlock, 1923.

It was voted that the Committee on Health Insurance be continued.

Dr. Steiner proposed that an amendment to the Constitution be made by striking the words "legally registered" out of Chapter XII, Section 2.

The purpose of this is to permit professors in the Yale Medical School, superintendents of hospitals, physicians holding positions in life insurance companies, and similar positions, who are not registered physicians to become members of the County Societies.

(At this point Dr. Donaldson read the Report of the Delegate to the Vermont Medical Society.)

REPORT OF THE DELEGATE TO THE MEDICAL SOCIETY OF THE STATE OF VERMONT.

DR. W. H. DONALDSON.

Mr. President and Members of the House of Delegates:

A perusal of our Proceedings reveals but few reports of Delegates to other State Societies, suggesting either a lamentable lack of such neighborly visitations or a regrettable indifference to the necessity of reporting such for the benefit of the members at large.

Taking this opportunity of expressing appreciation of the high honor and privilege of being delegated to represent this Society at the annual meeting of the Vermont Medical Society, a brief and most inadequate report is herewith submitted.

Words fail to properly express the cordial hospitality and courtesies extended to your representative.

The Vermont Medical Society is a live, up-to-date organization of ten county societies aggregating a membership of about four hundred men of professional ability; with a ratio of attendance comparing favorably with other and larger states. Most of

the men (no ladies were in evidence at the meetings), came early and remained to the end, giving close and interested attention to every paper. Each paper had a free and instructive discussion. There was no loitering in the halls and exhibit during the time of the sessions.

The meeting was held at Burlington, October 9 and 10, lasting two days with a banquet in the evening of the first day.

The members brought their lady friends to the banquet.

The sessions were held in the College of Medicine, the amphitheatre of which allowed of compact seating and close proximity to the speaker with entrance only from the front. Private confabs in remote corners were thus avoided, giving undivided attention to the business of the meeting. Perhaps the greatest interest was shown in the morning session of the first day, devoted to practical papers on obstetrics and pregnancy, which elicited lively and instructive discussion. The afternoon session was taken up by papers on Public Welfare, Medical Legislation, Health Administration and Industrial Medicine. It was a day filled with good, plain and practical instruction and delectation. On the afternoon of the second day clinics were given in the Mary Fletcher Hospital by Drs. W. F. Hamilton of Montreal, and J. C. Hubbard of Boston.

At the morning session Dr. Hamilton presented a paper on Internal Secretions, and Dr. Hubbard one on Cholelithiasis.

This Society is organized on the American Medical Association model plan. An interesting feature of the By-laws is the provision for medical defense of the members against suits for malpractice, administered by a Medico-Legal Committee. One such suit has already been successfully defended. This fund is covered by the annual dues of four dollars.

A copy of the annual report of the Society herewith submitted may be of interest.

Respectfully submitted,

W. H. DONALDSON.

Dr. Donaldson remarked on the inactivity of the Committee on Medical Defense and urged the appointment of a new committee.

Dr. Godfrey moved that a new committee be appointed to

study this question, and that this committee be appointed by the incoming President.

The following Committee on Medical Defense was appointed: W. H. Donaldson, Chairman, F. H. Barnes, A. G. Nadler.

REPORT OF THE DELEGATE TO THE MEDICAL SOCIETY OF THE STATE OF MASSACHUSETTS

DR. H. G. ANDERSON.

Mr. President and Gentlemen of the House of Delegates:

The delegate to the Massachusetts Medical Society from the Connecticut State Medical Society begs to report that he had the pleasure of presenting the compliments of the Society to the Massachusetts Society at their meeting held in Boston, June 3-4, 1919.

Every courtesy of the occasion was extended and the visit was made one to be remembered with pleasure.

The first morning was occupied with clinics at various hospitals. The afternoon session was divided into three sections, medical, surgical and on tuberculosis. This arrangement gave opportunity for presentation of many good papers and allowed a concentration of interest.

The morning of the second day was given to a general meeting with papers on lessons learned from war surgery. In the afternoon there was an open meeting of the section of Hospital Administration.

The meetings were well attended and from both the social and scientific aspects were of great interest.

Respectfully submitted,
H. G. ANDERSON.

REPORT OF THE DELEGATE TO THE MEDICAL SOCIETY OF THE STATE OF NEW HAMPSHIRE.

DR. DANIEL P. GRIFFIN.

Mr. President and Gentlemen of the House of Delegates:

The meeting of the New Hampshire State Medical Society was held in the city of Concord. Delegates from Maine, Vermont, Rhode Island and Connecticut attended.

The president's address reviewed medical activities in the World War and in civilian life and indicated opportunities and duties which the profession was approaching. The papers covered a variety of subjects and were most instructive.

Respectfully submitted,

DANIEL P. GRIFFIN.

REPORT OF THE DELEGATE TO THE MEDICAL SOCIETY OF THE STATE OF RHODE ISLAND.

DR. CHARLES C. GILDERSLEEVE.

Mr. President and Gentlemen of the House of Delegates:

It was my great pleasure to represent the Connecticut Medical Society at the 108th Annual Meeting of the Rhode Island Medical Society held in the Medical Library of the Society at Providence, R. I., June 15, 1919.

As you perhaps know, the Rhode Island Medical Society has a one-day meeting. The literary exercises began at 4 p. m. There was an interesting paper on "War Neuroses," by Arthur H. Ruggles, Providence, R. I. There was a report by the Director of Federal and State Health Departments for the Control of Venereal Disease, illustrated by moving pictures, by Dr. Harry W. Kimball, Surgeon U. S. P. H.

The annual address of the President, Gardner T. Swarts, M.D., was well worth hearing.

June 15, 1919, was one of the hottest days on record, and after driving fifty-six miles in my auto, I arrived in Providence in a melting condition.

When the meeting in the Medical Building adjourned to the Turks Head club rooms in the Turks Head Building for the annual banquet, it was like being transported from the torrid to the arctic zone. The banquet, as well as the afternoon meeting, was well attended. Two splendid addresses were given by Professors E. W. Taylor, M.D., of Harvard Medical School, and Frederick P. Gorham, M.D., of Brown University. Much of

the success of the banquet should be credited to the brilliant wit of the chairman of the banquet committee and the toastmaster of the evening, Dr. Blumer, and to the singing of the younger men and internes of the Rhode Island General Hospital. I was royally entertained, and I am sure that if the members of the Connecticut Medical Society knew how many courtesies were extended to me by the President, Secretary and members of the Rhode Island Medical Society, there would be a waiting list of members to represent the Connecticut Medical Society at the meeting of the Rhode Island Medical Society.

Respectfully submitted,

CHARLES CHILD GILDERSLEEVE.

The Secretary called the attention of the House of Delegates to the fact that although many important matters had been under consideration during this session there was only a small attendance in the House, that no delegate from Hartford County had been present at either session and that it was with great difficulty that two or three delegates from New Haven County were induced to attend.

Dr. Carmalt seconded the Secretary's remarks and suggested fining the absent delegates.

The following delegates to state associations were elected: Maine, P. H. Ingalls; New Hampshire, J. F. Calef; Vermont, S. M. Garlick, A. C. Freeman; Massachusetts, S. B. Overlock; Rhode Island, Charles B. Graves; New Jersey, W. K. Tingley; Pennsylvania, W. H. Donaldson, G. H. Noxon.

Dr. Galvin read the report of Dr. Griffin, delegate to the New Hampshire Medical Society.

It was voted to empower the Secretary to fill vacancies of delegates to state associations.

On motion of Dr. Donaldson it was voted to request the Council to consider the question of paying the Secretary an adequate salary. The motion was supported by Drs. Gildersleeve, Carmalt, and Tingley.

The meeting adjourned at 11:15 A. M.

Business Transacted in the Scientific Session.

WEDNESDAY, MAY 19, 1920.

Dr. H. O. Smith, Delegate from the New Hampshire Medical Society, Dr. C. W. Bartlett, of Bennington, Delegate from the Vermont State Medical Society, and Drs. Oliver H. Howe, Cohasset, and David E. Baker, of Newtonville, Delegates from the Massachusetts Medical Society, tendered the greetings of their respective societies and were welcomed by the President.

Dr. E. G. Balsam, of Billings, Secretary of the Medical Association of Montana, tendered the greetings from his Society and invited all the members of the Connecticut State Medical Society to attend the meeting of the Medical Association of Montana.

Dr. Lyman, Chairman of the Committee on Arrangements, made various announcements regarding the Smoker and the Banquet.

THURSDAY, MAY 20, 1920.

Dr. C. M. Ferrin, of Vermont, father of C. F. Ferrin, of New London, on the request of the President, made a short address.

Before reading his paper, Dr. Blumer, the President-elect, was requested by the President to make a few remarks, and spoke as follows: "I am deeply sensible of the fact that you have conferred upon me the highest honor in the gift of the medical profession of the state. I realize that this is one of the oldest societies in the United States and consequently a society which is rich in tradition. I shall endeavor to carry out the traditions of the Society. As I look back and think of the men who have occupied the chair since I became a resident of the state I realize that the task before me is a very considerable one. I thank you very much."

The Society passed a vote of thanks to the Committee on Arrangements for the very pleasant entertainment which had been given the Society.

A vote of thanks to Dr. Schamberg for his appearance on the programme was passed.

(Dr. Schamberg's address does not appear in the Proceedings as it was not committed to writing.)

The Clinical Sessions.

On the morning of May 20 the following clinical programme was given:

UNITED STATES PUBLIC HEALTH SERVICE HOSPITAL NO. 41.

(William Wirt Winchester Hospital)

Demonstration of Medical and Surgical Tuberculosis, including X-ray Demonstrations and Demonstrations of Operative Surgery.

NEW HAVEN HOSPITAL.

Exhibition of Medical, Surgical and Gynecological Cases by Members of the Clinical Staff.
Clinical Pathological Conference.

GRACE HOSPITAL.

Demonstration of Medical Cases by the Medical Staff.
Operations and Demonstrations of Surgical Cases.—Drs. W. E. Butler and Staff.
Demonstration of Heart Cases with Polygraphic Tracings.—Dr. L. H. Nahum.
Demonstration of Pediatric Cases.—Drs. J. I. Linde and H. S. Reynolds.
Demonstration of Pathological Specimens.—Dr. M. M. Scarbrough.
Demonstration of X-ray Plates.—Dr. L. F. Wheatley.
Demonstration of Neurological Cases and Physiotherapeutic Methods.—Dr. R. E. Peck.

MUNICIPAL CLINIC, DEPARTMENT OF VENEREAL DISEASES.

Demonstration of Patients and Methods of Treatment.

Social Events

The Entertainment Committee proved an efficient one. On the evening of the first day's session a smoker, with excellent moving pictures, was given at the Lawn Club. The scientific program of the second day was followed by a dinner at which addresses were made by Doctor Charles B. Graves, Doctor George Blumer, Dean Charles R. Brown and Mr. Don C. Seitz of the New York World. Doctor David R. Lyman presided.

PRESIDENT'S ADDRESS.

PRESIDENT'S ADDRESS.

Epidemic Disease in Early Connecticut Times.

CHARLES B. GRAVES, M.D.

It may seem to many a "dear time's waste" to turn from the all-absorbing and exacting present and the beckoning future, to the delving into past records and bringing to light these "old, unhappy, far off things." But I make no apology. The study of the history of any phase of human activity needs none. "Without history," says old Thomas Fuller, "a man's soul is purblind, seeing only the things which almost touch his eyes." Not only for our own sakes, for our own breadth of view, is the study of history indispensable. The preservation of the record of the lives and activities of our predecessors in our chosen field is incumbent upon us as a very real duty, which we are too apt to forget. Sad it is that in many instances we know so little of the men who before us carried on the fight against disease and death and at last succumbed, handing on the torch to their successors. Even their names were all too often "writ in water." The rescue of even a name if nothing more from lasting oblivion is well worth while. It is whispered that even now it is sometimes difficult to get obituary notices of our members who have gone before. I can hardly find words strong enough to protest against such dereliction in duty. One who is appointed to write an obituary notice of a deceased brother, in accepting the appointment, lays himself under a solemn obligation. He should enter upon it with a due sense of his responsibility, not only and least of all to the Society, but more especially to his voiceless friend. He is the trustee—it may happen the sole trustee—for the benefit of future generations of the record of his brother's life work, of his reputation, perhaps of his very existence. Not until he has discharged this duty carefully and to the best of his ability is he discharged from his trusteeship.

From time out of mind one of the chief terrors of mankind

has had its source in epidemic disease, "the pestilence that walketh in darkness . . . the destruction that wasteth at noonday"; those mysterious visitations which have at irregular intervals, oftentimes without warning, stricken down and ravaged communities, countries, or continents, like the very embodiment of the powers of evil. It is no wonder that man in all ages, especially in early times, has quailed before such evidences of malevolent power, and in the absence of naturalistic explanation appealed to his God for mercy and protection. One by one the mysteries clouding these epidemics have dropped away, but even in our day all is not yet as clear as crystal. As Simon Flexner has recently emphasized, referring to epidemic meningitis, even with our present knowledge of etiological factors and of the existence of sporadic cases and healthy carriers, we cannot fully account for epidemic waves. He says, "Other conditions or factors are necessary to convert such sporadic occurrences into an epidemic outbreak." As long as we do not know what such factors are, it is hardly fitting for us to "sit in the seat of the scornful" and scoff at the efforts of our predecessors to connect epidemics with all sorts of phenomena celestial and terrestrial.

The object of my paper is to present a connected chronological account of epidemic diseases in Connecticut from early times until about the end of the first quarter of the nineteenth century. This has involved the piecing together of many scattered records. If in the finished product quotations may seem to bulk rather large, I can only plead as an excuse my feeling that the original or early statements are as a rule more interesting than later ones, and in many instances can hardly be improved upon.

The early references, as may be imagined, are very meagre and often so lacking in detail as to leave the nature of the illness quite in doubt.

It is stated by Love in his "Fast and Thanksgiving Days of New England," that "Upon January 23rd, 1638-9 there was kept at Windsor 'a general day of humiliation' for England and the sickness in the Bay." Whether Connecticut shared in this visitation does not appear.

Governor John Winthrop in his History of New England men-

tions a malignant fever as generally prevalent in the spring of 1646 "whereof some died in five or six days, or if they escaped the eighth they recovered, and divers of the churches sought the Lord by public humiliation so as about the middle of the third month, it ceased." In this case also there was no specific mention of Connecticut.

In 1647 a disease which is generally considered to have been the influenza swept through the colonies in America and the West Indies, including the New England settlements. This is the first recorded epidemic of that disease in America. Winthrop wrote of it as follows: "An epidemical sickness was through the country among Indians and English, French and Dutch. It took them like a cold and slight fever with it. Such as bled or used cooling drinks died; those who took comfortable things for most part recovered and that in a few days. Wherein a special providence of God appeared, for not a family, nor but few persons escaping it, had it brought all so weak as it brought some, and continued so long, our hay and corn had been lost for want of help; but such was the mercy of God to his people, as few died, not above forty or fifty in Massachusetts, and near as many in Connecticut."

John Eliot, as quoted in Love's work, already cited, described this illness as "a very depe cold with some tincture of a fever & full of malignity & very dangerous if not well regarded by keeping a low diet." Winthrop's wife died in this epidemic, and the Rev. Thomas Hooker.

The next reference I take from Noah Webster's work, "A Brief History of Epidemics and Pestilential Diseases," published in two volumes in 1799. The author was the famous lexicographer. He became greatly interested in the subject and beside the work mentioned published, "A Collection of Papers on the subject of Bilious Fevers, Prevalent in the United States for a few years past. Compiled by Noah Webster, New York, 1796."

Webster writes: "Some severe epidemic had prevailed in New England; for in the spring of 1654 a general fast was appointed by the Government of Connecticut, one reason assigned for which was, 'the mortality which had been among the people of Massachusetts.' What the disease was I am not informed."

In 1655 and 1656 there were other epidemics of what was probably influenza. Of the former year Hubbard in his History of New England writes: "In 1655 there was another faint cough that passed through the whole country of New England, occasioned by some strange distemper or infection in the air. It was so epidemical that few persons escaped. It began about the end of June."

Trumbull in his History of Connecticut states that there "was a great sickness and mortality throughout New England in 1658. The season was intemperate and the crops light."

In 1659-62 according to Packard ("History of Medicine in America") the New England colonies were afflicted with an epidemic which was called at the time Cynanche Trachealis and was probably some form of diphtheria. Deliverance from this affliction was marked in Connecticut by a day of Thanksgiving ordered by the General Assembly.

Smallpox is believed to have been introduced into America by the Spaniards in the 16th century. How early it reached New England we have no means of knowing. The virulent epidemic which about 1616-17 is said to have carried off nine-tenths of the Indians of Eastern Massachusetts and Rhode Island, is held by some to have been smallpox, but the weight of opinion is against that view. In 1633-4, however, an undoubted epidemic of that disease swept through eastern Massachusetts carrying off large numbers of both whites and Indians. The first recorded general epidemic in New England occurred in 1666 and while I have seen no specific reference to Connecticut she undoubtedly shared in the visitation. Packard states that the disease was brought at that time from England where it was then prevalent. It might also have come in from the New Netherlands which three years before had been ravaged by a very malignant epidemic. Fasts were ordered at this time and again in 1677-8 as an appeal for deliverance from this "king of terrors" as John Adams called it later.

According to Webster the year 1683 was marked by general sickness in Connecticut and in some places by unusual mortality.

Among the papers of Miss Caulkins, the historian of New

London, is found the following copy of the old Town Clerk's record in 1689: "An Accompt of severall persons Deceased by the present Distemper of sore throats and ffeaver which Distemper hath passed through most familys & proved very mortall with many Especially to those that now have it in this more than ordinary Extremity of hot weather, the Like haveing not been knowne in ye Memory of man." During four months of that summer twenty-five people died in that town, nearly all of them from the disease which was probably diphtheria.

As Miss Caulkins remarks, "A disease so malignant would naturally cast a pall of gloom over a population so sparse and intimately connected." Miss Caulkins quotes from the Court Records as follows: "September 1689. By reason of the afflict-ing hand of God upon us with sore and general sickness that we are incapacitated to serve the King and country at this time, we see cause to adjourn the Court until the first Tuesday in November next."

The years 1689-90 were also marked by the prevalence of the smallpox, especially in Massachusetts. It caused several deaths in Stonington at that time, as recorded by Manasseh Minor in his diary. We find also in Miss Caulkins the following: "June 1690. The Court adjourned to first Tuesday in August on account of the contagious distemper in town."

Another general outbreak of influenza occurred in the winter of 1697-8, beginning in November and continuing until February. Webster quotes from a diary of Daniel Fairfield of Braintree, Mass.; "Its violence was in January when whole families were sick at once and whole towns were seized nearly at the same time. " "The same winter," quoting from Webster, "a mortal disease raged in the town of Fairfield in Connecticut, which was so general that well persons could scarcely be found to tend the sick and bury the dead. Seventy persons were buried in three months although it may be doubted whether the town then contained 1000 inhabitants."

About 1700 smallpox began to be rife again. Manasseh Minor's diary mentions cases occurring that year and the two following in Stonington with at least five deaths. It spread

widely and rapidly all over the country, the epidemic reaching its height in 1702, when its ravages in Boston were appalling.

In October, 1712, in Waterbury, Conn., began what Dr. Bronson, in his History of Waterbury, states was long called "the great sickness." It was particularly severe in March, 1713, but continued until the following September, and it is stated that more than one-tenth of the population died with it. Webster says of this epidemic, "It was so general that nurses could scarcely be found to tend the sick. What the disease was I am not informed, but not improbably it was that species of putrid pleurisy which has so often made dreadful havoc in America." By "putrid pleurisy" Webster doubtless meant what was generally called malignant pleurisy. Pleurisy and pneumonia were not well distinguished at that time. The "malignant pleurisy" of the 18th century was actually a virulent pneumonia and came to be known in the early 19th century as "pneumonia typhoides."

According to Webster "in 1713 prevailed the measles in America." It was not until the winter of 1714-15 that it became epidemic in New London. Joshua Hempstead's diary records its prevalence in New London at that time, and lists seven deaths from that disease in two months. It continued into 1716.

A few words in parenthesis regarding the author of the diary mentioned may not be out of place. Joshua Hempstead, a grandson of one of the first settlers, was born and lived all his life in the Old Hempstead House in New London. He was a remarkable man, skilled in many occupations both of head and hand, of enormous industry, and a faithful and unfaltering recorder of the events of his time. His diary covers forty-seven years from 1711 to 1758 and is of the utmost interest and value. Hempstead rivalled Judge Sewall in the keen interest he took in all that pertained to sickness and disease. He seldom fails to record deaths and their causes, and his records show much discriminating observation.

In December, 1717, Hempstead again records some kind of a "distemper" affecting both children and adults; pain in breast and side and fever, with four or five deaths. This may have

been some malarial disease to which Hempstead was subject more or less all of his life.

Webster says of the year 1719-20: "In these last years raged malignant pleurisy in Hartford with great mortality." This seems to have been without doubt as stated a virulent form of pneumonia.

The year 1721 marks the introduction of inoculation for small-pox into this country by Dr. Zabdiel Boylston, of Boston. The bitter controversy which followed, both in and out of the medical profession, is familiar to all. A full account of the Connecticut Legislation for and against it is contained in the able Presidential Address of Dr. C. A. Lindsley delivered before this Society in 1892, entitled: "The Beginning and Growth of Sanitary Legislation in Connecticut."

Hempstead records cases of "bloody flux" in New London in September and October, 1722. This, of course, was dysentery.

In 1724-5 New London was visited by a very malignant epidemic in the course of which there were thirty-five deaths in February and March. Hempstead in his diary says "fryd 5th (March) fair warm & pleasant wether overhead. but the Most sorrowfull time yt Ever was Seen in N. London for Mortality their Lyes now this morning. 6 persons dead & 1 negro woman of Groton." Unfortunately not the slightest clue as to the nature of this disease is given us.

The first record in Hempstead of what was probably diphtheria occurs under date of July 23, 1726, when a child of four "died with a distemper in the throat." In February, 1728-29, he records a death from "Measles, age 64 yrs." These entries are of interest as indicating the presence of sporadic cases of diseases which later became generally epidemic.

Several cases of what was doubtless typhoid fever occurred in Hempstead's own family in June and July, 1729, of which two died. In September and October of the same year he records five or six deaths from "bloody flux which distemper prevails much in this town."

A "malignant pleurisy" prevailed in Farmington in 1729 according to Webster.

The year 1730 was marked by much malaria in New London.

Hempstead records a death in 1731 with "a choaking distemper most like the quinsy," probably diphtheria again. In this year also we first find an entry like the following: "Died, of a Pleurisy Taken Tuesday & buried on Saturd." From that time on that disease figures often in his records as a cause of death.

In September, 1734, "bloody flux" prevailed in New London as noted by Hempstead and several deaths from that disease are recorded.

The epidemic of diphtheria or "cynanche maligna" which began in Kingston, N. H., in May, 1735, and was very severe in Boston in that year and the following, spread south and west and reached Connecticut in 1736. Hempstead records its prevalence through 1736 in New London and lists fourteen deaths from May 27 to December 25. He calls it variously "throat distemper," "sore throat distemper," and what he speaks of as "canker" was doubtless the same disease. Its ravages must have been appalling. It is said of the New Hampshire cases that of the first forty not one lived. Only those of us who were in practice before the introduction of antitoxin can fully realize its dreadful power. It was very prevalent and fatal about this time or a little later in New Haven and the towns round about. In August, 1738, Hempstead records a death in New London from "Hooping cough which is very common in ye Town," and another death from the throat distemper.

He notes also a death from measles in 1736 and several in 1740. In the winter of 1740-41 measles was severely epidemic throughout Connecticut.

Packard states that diphtheria was again epidemic in 1742 in "many of the northern colonies." Hempstead records eleven deaths from it in late 1743 on through 1744. For example, on November 24, 1744, he writes: "A child of Jasper Daniels buried. died of the Rattles or Throat Distemper."

In 1745, quoting Webster, "the town of Stamford was severely distressed by a malignant dysentery which swept away seventy inhabitants out of a few hundreds. The disease was confined to one street."

It is perhaps of interest to mention that in 1745 under date of August 27, Hempstead makes this note: "Joshua Huntington Esqr., of Norwich Died ys morning about one of ye clock. had Lately been to New York & came home Sick with ye yellow fever aged forty-five odd." Two years previous the "Bilious Plague," which was probably yellow fever, had invaded New York and carried off 217 persons. Hempstead again writes August 30, 1747, "John Crocker, aged 30 odd Died towards night with the yellow fever. he sayled out with Capt. Jno Braddeck last winter & was taken near Jamaica. after a great deal of difficulty got home two months ago & Sick ever Since."

In 1746 a peculiar disease appeared among the Mohegan Indians. By Webster it is conjectured to have been of the same nature as an epidemic which occurred in Albany, N. Y., at the same time, and which Dr. Cadwallader Colden called a nervous fever and Dr. Douglass yellow fever. It began in August and ended with frost. The sick Indians were attended by Dr. Elisha Tracy of Norwich whose son, Dr. Philemon Tracy, gave Webster his information. The disease, quoting Webster, "began with severe pain in the head and back followed by fever; and in three or four days the skin turned 'as yellow as gold,' a vomiting of black matter took place and generally a bleeding at the nose and mouth till the patient died. These are the words of the old Indian as penned by my informant." Dr. Tracy was affected with the disease but recovered. About one hundred died. This outbreak seems to have been confined to the Indians. Its nature must remain in doubt but the possibility of its having been yellow fever cannot be excluded. That disease had raged in the south in 1741-42 and, as stated, in 1743 a "bilious plague" which was probably the same disease prevailed in New York.

"In 1747 influenza raged all over North America" according to Packard, but I have not seen any specific records for this state. The following year, under date of June 24, Hempstead notes: "a very great cold wch is a universal Destemper," perhaps a recrudescence of the influenza of the year before.

The years 1749-1751 were characterized by very distressing epidemics in some of the Connecticut communities. Webster

says: "In 1749 the dysentery and nervous long fever visited many towns in Connecticut with distressing mortality. Waterbury suffered a loss of about 130 of her inhabitants principally by dysentery. Cornwall, then a new settled village on high mountains, lost twenty of her citizens. Hartford was severely visited with intermittent for the last time." At the same time there was "terrible dysentery" in Woodbury, and in Bethlem "ragged a mortal fever which swept away between 30 and 40 of the inhabitants." In 1751 "the dysentery was epidemic and mortal in Hartford and New Haven probably in many other places. With this fatal dysentery prevailed a mortal angina for several years." "The dysentery and ulcerous sore throat were very fatal this year in Guilford."

The year 1751 was sickly in New London also. Hempstead records many deaths from "canker" in the summer and fall, and they continued to occur at irregular intervals for several years through 1756.

May 14, 1753, Hempstead writes: "One Brumingham Master of a Sloop from the West Indies Blonging to Connecticut River was buried. came home Sick with the yellow fever." In this year also "bloody flux" prevailed in New London with many deaths.

The years 1760-61 were marked by the occurrence of epidemic disease in many parts of Connecticut in common with other parts of the country. The town of Bethlem was again hard hit. Barber, in his "Connecticut Historical Collections," gives the following account: "We learn from Bethelm that such a distressing sickness has prevailed there of late that in the month of November (1760) 34 persons died in that small town but the distemper is somewhat mitigated. They are taken first with a cold and then a malignant pleurisy sets in and carries them off. Among others that died was Doct. Hull, his wife and two childr., and a young man, all out of one house; the doctor and his wife were buried in one grave. Soon after their deaths and while others were sick in the house, one Deacon Strong coming by, raised a flock of eleven quails, which flew over the aforementioned house, and dropped in the garden; immediately after

three rose and flew into the bushes, but the eight were picked up dead, and in a hour after stunk and were buried. The air in the parish is said by doctors and others of judgment to be apparently different from the air in towns and parishes round about it. Some doctors there have been ready to call this distemper the plague or something like it." If the story of the quail had derived its authority from any other source than the good Deacon, we should have to take it with more than a grain of salt.

Webster states that "the same species of fever prevailed in that winter and the spring following in many parts of Connecticut.—In Hartford it carried off a number of robust men in two or three days from the attack. In North Haven it attacked few persons but everyone of them died. In East Haven died about 45 men in the prime of life, mostly heads of families. The same disease prevailed in New Haven among the inhabitants and students in the college." Also, "that the disease was extremely violent terminating on the third or fourth day; in some cases the patient died within twenty-four hours of the attack." One of Webster's informants, Dr. Trumbull of North Haven, remarked: "The blood was thick and sizzly; often issuing from the nose and sometimes from the eyes. The inflammation was violent and soon produced delirium. The most robust bodies were most liable to the disease. A free use of the lancet in the early stages of the disorder was the only effectual remedy; where the physicians were afraid to bleed the patients all died." What this disease really was is difficult to say. It may be that there was more than one infection at work at the same time. Certainly Barber's account suggests the so-called malignant pleurisy or as it was called "pneumonia typhoides." Webster considered it an "inflammatory fever" common in the south but occurring for the most part only sporadically in the northern states. In this instance, however, his opinion is not entitled to much weight.

In the winter and spring of 1761 a severe influenza visited the northern states. "In Bethlem," says Webster, "it was contemporary with the fever just mentioned." He quotes from a letter of "Dr. Tufts, a respectable practitioner of Weymouth,"

as follows: "The distemper began in April and in May ran into a malignant fever which proved fatal to aged people. It spread over the whole country and the West India Islands. It began with a severe pain in the head and limbs, a sensation of coldness, shiverings succeeded by great heat, running at the nose, and a troublesome cough. It continued for eight or ten days and generally terminated by sweating. In May the aged who had before escaped were seized with an infection like a slight cold, this in a day or two was followed by great prostration of strength, a cough, labor of breathing, pains about the breast, precordia and in the limbs, but not acute. The countenance betrayed no marks of febrile heat. The matter expectorated was thin and slimy. As the disease advanced, the difficulty of breathing increased; the expectoration was more difficult, the matter thrown off more viscid; at length the lungs appeared to be so loaded with tenacious mucus that no effort could dislodge it, and the patient sank under it. This disease carried with it bilious appearances. The countenances of some patients were of a yellowish hue. In some there was an appearance of insensibility and at night a slight delirium."

After an interval of perhaps a dozen years of comparative freedom from epidemics, we come to another sickly season. It was ushered in by the year 1773 which was marked by in part measles. "But," to quote Webster again, "the most mortal disease was cynanche trachealis or bladder in the throat. In general there was little canker but an extreme difficulty in breathing; the patient being nearly suffocated with a tough mucus or slime, which no medicine could attenuate or discharge, and which finally proved fatal. All medical aid was fruitless, and scarcely a child which was attacked in some towns survived. This disease was speedily followed in some places by the dysentery of a peculiarly malignant type, occasioning mortification on the third day. This disease was prevalent and very fatal in New Haven and East Haven in Connecticut, and in Salem, Massachusetts." Webster's authorities were Drs. Trumbull and Holoyoke. This was without question diphtheria, probably largely laryngeal.

In 1775 Middletown was visited with a severe epidemic of

diphtheria, and it was at the same time prevalent in other parts of New England.

Barber gives the following account of an epidemic in the same year in the town of Somers. "In the year 1775 a malignant fever prevailed in town. It began about the first of August and raged three months. This sickness had been immediately preceded by the scarlet fever and dysentery, which carried off a number. 36 persons died that year, most of whom died of the fever, about one in 29 of the whole number of inhabitants in the town. It seized its patients with great violence, and frequently brought life to a close by the eighth day and sometimes as early as the sixth. It rarely failed of attacking every person in the house where it entered in its early stages. The people in general were filled with great consternation. Nurses were procured with great difficulty, and in some instances the sick must have suffered, if recourse had not been had to legal coercion." "The scenes of distress which opened among the sick and dying can be remembered by us who were eye witnesses, but cannot be described." The absence of any description leaves one entirely in the dark with respect to the diagnosis of this disease.

Influenza was generally prevalent again in the spring of 1781. Dr. Cotton Tufts of Weymouth, Mass., previously mentioned, makes the following interesting observation with reference to this epidemic, according to Webster: "The disorder was seldom fatal, but its effects were visible in the multiplied cases of pulmonary consumption in the following year."

Webster states that measles prevailed throughout New England in 1783 but I have seen no specific mention of Connecticut. In the same year scarlet fever was severe in Middletown, and this seems to have inaugurated a wave of scarlet fever which spread itself more or less all over the eastern part of the country, and which lasted five or six years.

In 1789-90 influenza was rife again in New England, coming apparently from New York and reaching Hartford about the middle of October, 1789. Webster himself had an attack of it at that time. It was epidemic again in the spring of 1790.

After an interval of two or three years scarlet fever reap-

peared in 1792 and in a malignant form, complicated many times apparently with the laryngeal or other form of diphtheria. The same year in Bethlem there were five deaths from cynanche trachealis. That town seems to have been a particularly shining mark, for we read in Webster: "In February 1793 the scarlet fever invaded the town of Bethlem like an armed man," in the form called "angina maligna." Nineteen children died of it that year and fourteen the next. This wave of scarlet fever seemed to begin in some of the inland towns. Litchfield, New Fairfield, and Hartford are particularly mentioned, but in September and October, 1793, it began to appear in the shore towns, and rapidly spreading by the early part of 1794 it was very general. On the authority of Dr. Monson, Jr., of New Haven, who left an excellent account of this epidemic, having been preceded by influenza in the fall of 1793 it became very severe early in 1794, and during the first half of that year it seized more than 750 persons in New Haven, mostly youth, of whom fifty-two died. Dr. Monson speaks of the ulcerous sore throat as "highly putrid."

In the fall of 1793 Webster states that a fatal dysentery "prevailed in Coventry in Connecticut and killed almost every person whom it seized." Also, "that a nervous or long fever prevailed in Wethersfield," meaning by that term, I suppose, what we now call typhoid fever.

The year 1794 is particularly noteworthy as marking the appearance of yellow fever in New Haven. The first case occurred June 10, in the person of a woman living on Long Wharf. The nature of her illness was not determined until just before her death. Other cases rapidly followed but the outbreak was confined for the most part to the vicinity of Long Wharf. In all, there were about 160 cases and sixty-four deaths, of which forty-eight had black vomit. The disease raged from June to November, being worst in September at which time the town was healthy otherwise. It proved equally mortal in every part of the town where it occurred. There followed, as has happened so many times in the case of yellow fever, a hot discussion as to whether the disease was imported or native. The prominent physicians of the town, I believe, favored the first

view. Dr. Monson writes, "No person had the yellow fever unless in consequence of attending the sick or being exposed by nurses, infected houses, clothing, or furniture." "It is certain from facts before mentioned that yellow fever is propagated in no other way than by contagion, and this is a specific contagion; and no more diversified in its operation on the human system than that of smallpox or measles." Webster, in his account argues as usual at length in favor of his theory that all such outbreaks are due primarily to a pestilential state of the atmosphere, assumed to be connected in some way with the celestial bodies, or with various weather conditions coöperating oftentimes with insanitary local conditions.

This epidemic in New Haven, and the one in New London to be described later, furnish so far as known the only instances where undoubted yellow fever gained a serious foothold in the state.

Dr. Monson refers to an account given him by "aged persons" of an interesting occurrence in New Haven in June, 1743. "A transient person who came from the West Indies lodged at the house of Nath. Brown an inn keeper in this city. The man was taken very sick in the night; and died shortly afterward; and his body was very yellow after death. Mr. Brown's wife sickened in a short time and died of the same complaint; which was at that time supposed to be yellow fever." In that same year it is recalled the so-called "bilious plague" raged in New York.

With our present knowledge of the mode of transmission of yellow fever the seemingly unaccountable facts find ready explanation. A few days before the first case, a sloop from Martinico arrived and tied up at the wharf only a few rods from the home of the first patient. This vessel came from an infected port, and in view of what followed we can safely assume was well supplied with infected *Stegomia* mosquitoes. The interval between the arrival of the sloop and the appearance of the first case agrees with the known period of incubation of the disease as established by that epoch-making experimental research of the United States Army Yellow Fever Commission in Cuba.

On August 20, 1795, according to Dr. Monson, Capt. John

Smith died in New Haven of yellow fever, having caught the disease in New York. He communicated it to one of his negro servants.

For several years following 1794 cases of malignant fever were reported in a number of places in Connecticut. Webster generally calls them "bilious plague." Some were probably yellow fever, but with the data at hand now it is quite impossible to give a positive opinion. Connecticut practitioners of those days had had for the most part little or no experience with yellow fever, and it is not surprising that they were many times in doubt. Even to-day the diagnosis of yellow fever is said not to be entirely easy; in fact, having in mind other forms of acute infectious hemorrhagic jaundice, it is probably fully as difficult as it was in 1795. In 1795 there were a few cases at Mill River near Fairfield, said to have come from "infected persons from New York," where it was severely epidemic in that year. Again in 1797 there was, according to Webster, a malignant fever in Chatham, Conn., and cases also at Hartford both that summer and the two following. Whether these were yellow fever or perhaps some form of malarial fever it is impossible now to say.

According to Webster: "In the following year (1795) a malignant dysentery originated and prevailed in New Haven, destroying more lives than the bilious plague of 1794." He states also that, "in 1796 the measles which was epidemic in New York in 1795 was epidemic in Connecticut."

New London in 1798 was stricken with undoubted yellow fever in epidemic form. We have what is probably a fairly accurate contemporary account of this outbreak issued in pamphlet form by Charles Holt, publisher of *The Bee*, a New London paper of that period. Furthermore, the Medical Repository of New York for the year 1799 contains three letters to Dr. Mitchell, the editor, on the subject, two from the Rev. Henry Channing and one from Dr. Thomas Coit, both residents of New London. The first victim was Capt. Elisha Bingham who kept the Union Coffee House on Bank Street in the most populous part of the city. He was suddenly taken August 22 and died after four

days. A few days afterward his wife, son and daughter were taken down and all died. Others in the neighborhood were soon stricken and the disease spread rapidly. Following the first few cases "the next week witnessed no less than 25 deaths." It is stated by Holt that within a small space there were fifteen houses inhabited by ninety-two persons of which number ninety were infected by the disease. Thirty-three of this number died and two only escaped the fever. The disease remained practically confined to an area extending about thirty rods north and the same distance south of Capt. Bingham's house, and twenty rods in width. According to Holt, "the mortality within the aforesaid limits was equal to that among the same number of inhabitants in any part of Philadelphia in the same length of time." Miss Caulkins writes: "It was remarked that the disease attacked almost indiscriminately all within its reach; no description of people, no particular habit of constitution, escaped; large and airy dwellings, wealthy and respectable citizens, were visited with as much severity as the poorest and most crowded families in the neighborhood. Many of those who used the greatest precaution caught the disease and died; others who were greatly exposed escaped." Dr. Coit says: "We could not find any sick of the fever (two cases excepted), but those who had been either in Bingham's house, or frequented the spot from whence we concluded the infection originated."

It is not surprising that this visitation created a genuine panic in the town. A large proportion of the inhabitants who at that time in the compact part of the town numbered about 2,800 removed to a greater or less distance. The physicians, I am sorry to have to say, seemed to furnish no exception to the rule. It is with mixed feelings that I quote from Holt as follows: "Early in the sickness all the physicians, but one who was too much indisposed to practice, and another, Dr. Rawson, who was violently attacked by the fever, deserted the city, excepting Dr. Samuel H. P. Lee, to whose lot it fell alone and unassisted to combat the fury of the dreadful pestilence. And his conduct on the occasion was such as will call the warmest sentiment of gratitude and esteem from the citizens of New London, as long

as the memory of the *Yellow Fever* shall exist in their minds. He cheerfully sustained the arduous task of visiting and supplying with medicine thirty to fifty patients daily, notwithstanding the great fatigue and danger of infection to which he peculiarly exposed himself." Holt's account is followed by Miss Caulkins.

The foregoing constitutes a pretty severe arraignment of the spirit of most of the profession of New London at that time. It is possible, of course, that there may have been extenuating circumstances, the knowledge of which has not come down to us. It should be considered moreover that the number of physicians practicing in New London at that time was small, not more than five or six so far as I have been able to learn. Furthermore, we have it from Dr. Coit himself that he was active in attending the fever patients during the first fortnight of the epidemic, and until he was taken ill himself with the disease. Unfortunately, I have been able to see only incomplete files of two of the three little newspapers published in New London at that time and there is no telling what the missing copies might yield. However that may be, there is no question but that the brunt of labor and responsibility fell upon Dr. Lee, and that he met the emergency in a spirit of heroic self-sacrifice and devotion. For a large part of the eight or nine weeks that the epidemic lasted he carried the whole load. He received much assistance, however, from a Mr. Gurdon J. Miller who, though not a physician, was skilled in caring for the sick, which he did without compensation. Moreover, during the latter part of the time a relative, Dr. James Lee from East Lyme, and Dr. Amos Collins of Westerly, R. I., came to his aid. Dr. Lee himself had an attack of the disease near the end of the epidemic. Holt writes: "In the discharge of the important duty to which he so nobly devoted himself, he was seized with the prevailing disorder, but after a struggle of a few days was happily preserved from falling a sacrifice to his humanity." He received the public thanks of the Committee of Health of the Town, which had been especially appointed for this emergency and which was untiring and most efficient.

There were, according to Holt, more than 350 cases and ninety deaths. Rev. Mr. Channing, however, gives the figures as fol-

lows: "We ascertained with a precision to be relied on that the whole number of persons whose complaints clearly indicated the pestilential, or, as it is called, the yellow fever, did not exceed 246; and I give it you as a very important fact, on which you may rely, that, of the above number, 231 cases were clearly traced to the spot where the sickness commenced, that is, the patients were conversant, or had been in that part of the city a few days before they were seized."

Holt says: "Two or three solitary instances, indeed, occurred, where the disease was taken from an infected person, without any previous communication with the contagious spot. General Marvin, an eminent physician of Norwich, was attacked while attending Mr. Stewart, at Mr. Haughton's, seven miles from the city, and went home and died. But no other person, it is believed, was taken off by the disorder, without having been nursing or otherwise in the infected spot; and in general those who lived at only a few rods distance, and avoided any nearer approach, were as secure from the effects of the fever as though they had removed an hundred miles in the country."

There was the usual speculation as to the cause of this epidemic. Holt sums it up as follows: "With respect to the immediate causes of this melancholy visitation, the opinions of the philosopher, the physician, and the divine are at variance. By some it was attributed to infection imported from abroad; by others to domestic origin from putrid animal substances; by others to the excessive and continued heat of the weather; and by some to the judgment of Heaven in punishment of national iniquities." Holt's own opinion was that: "The idea of imported infection having neither fact nor argument to support it must of course be abandoned." Mr. Channing also says: "As we have not even a shadow of ground to suppose the disease was not of domestic origin, we are urged critically to investigate the cause within ourselves." Dr. Coit is non-committal: "As to its local origin," he says, "I give you the statement of facts, and leave it with you to determine." The most popular theory incriminated a lot of semi-putrid drying codfish which was stored close by the residence of the first case.

Webster of course rules out at once the possibility of importation—"No vessels from the West Indies, no sick from other places." Nevertheless, the *Connecticut Gazette* records the arrival in New London of two vessels from the West Indies, one July 31, and the other some time in August, so therein lies the possibility, if not probability, of the invasion of the town by infected *Stegomyias*.

Before leaving Dr. Lee, a few words regarding his life may not be out of place. He was born, probably in Lyme, August 5, 1772. His father, Capt. Ezra Lee, won distinction in the Revolutionary War as the navigator of the first submarine used in warfare, David Bushnell's *Turtle*. Dr. Lee was admitted to membership in the New London County Medical Association in September, 1793, having, to quote the record: "produced letters testifying his having acquired sufficient knowledge to practice physic and surgery from Doctor Bailey of New York and sundry other gentlemen." In 1795 he was operating a smallpox inoculation hospital. He combined also with his medical practice an extensive drug business. After the yellow fever epidemic he continued in New London, an active, prominent and eminently prosperous medical practitioner. The only "blot upon the scutcheon"—and it would perhaps be ungenerous to stress that in view of his splendid service in connection with the yellow fever—lay in his manufacturing, advertising and vending his well-known "New London Bilious Pills." He made the epidemic an occasion for special advertising of his pills as a preventive and cure of the disease. By reason of this phase of his activity he was later called to account by his County Association and the State Medical Society, and narrowly escaped expulsion. Without going into detail it is enough to say that he fulfilled the conditions imposed by the Society and was fully reinstated. He was elected a fellow of the State Society in 1806, the year after proceedings against him were closed, and for at least eight successive years thereafter was returned as delegate by his county society. He continued to live in New London until 1838, when he moved to New York. He died January 7, 1863, at the age of ninety-one.

In 1803 yellow fever reached New London again, but according to Miss Caulkins, "The disease came from abroad and did not spread among the citizens." There seems to have been only a few cases.

Before leaving Webster it is only fair to say that he deserves great credit for his extensive and painstaking researches and his accumulation of facts. In his interpretation of the facts, however, he was greatly biased by his theories, and exercised no inconsiderable skill in endeavoring to bring the two into harmony. Furthermore, his lack of medical training frequently led him into error. With regard to yellow fever, however, it should be stated that there was at that time no unanimity in the profession itself as to whether it was an imported disease or due to bad local conditions. The question was a perennial one in Philadelphia and equally able and distinguished physicians were ranged on both sides.

The statement is made by Dr. Thomas Miner ("Essays on Fevers and other Medical Subjects," 1823) of Middletown that: "The exemption from wide spread and mortal epidemic during the period from the Revolutionary War to about 1805 was so great that many physicians passed the whole term of their practice, and scarcely met with a single well marked original typhoid disease.—Typhus fever (meaning of course what we call typhoid) and pneumonia typhoides either as epidemic or endemic, were known to our ancestors, the latter under the name of malignant pleurisy, but for nearly half a century they did not prevail except in some very limited districts." That statement is perhaps rather broad, yet in the main it does seem to be borne out by the facts as regards the malignant pleurisy, typhoid and for the most part influenza.

In 1807 all the eastern and middle states were visited by an epidemic of influenza, "more universal than any within the memory of man." Dr. Miner gives us this familiar picture: "Not a person in five hundred escaped; nor was there one case in a hundred which was not attended with debility from the very access to the close of the disease. Lassitude and languor with a moist skin and weak pulse were its attendants in every

stage." In the *Medical Repository* for 1809 is contained an account of this epidemic by "Shadrach Ricketson, Physician in New York."

The year 1807 marks also the first appearance in Connecticut of that dread disease most commonly called at that time spotted fever, which we now know as epidemic cerebro-spinal fever or meningitis. Other names for the same disease in use during the first quarter of the 19th century were Typhus Petechialis, Malignant Petechial Fever, Typhus Syncopalis, and Sinking Typhus. The first recorded occurrence in New England was the previous year at Medfield, Mass. An account of that outbreak "by Drs. L. Danielson and E. Mann, attendant physicians on the sick," was published in the "Medical and Agricultural Register" of Boston, and is reprinted by Dr. Elisha North in his book on Spotted Fever. Their paper was rendered of unique value by its report of the "Examination by Dissection—on five bodies of patients dying of the above described malady." Two of these showed distinct evidences of meningitis, one especially where "between the dura and pia mater was effused a fluid resembling pus, both over the cerebrum and cerebellum, the veins of the brain turgid with blood, and the hemispheres adhered together with considerable strength." In the other cases the "veins and sinuses of the brain were found remarkably turgid with a very dark colored blood."

The epidemic in Connecticut was preceded not only by influenza but also, as stated by Dr. Henry Fish of Hartford, by typhus and pneumonia typhoides, the first especially, both attended with unusual debility. The first cases of Spotted Fever in this state were observed in April, 1807, near the center of the first parish in Winchester in Litchfield County. Dr. Benjamin Hopkins Catlin of Meriden, a former President and active member of this Society, in his "Report in part upon the Climatology and Epidemic Diseases of Connecticut," published in the Transactions of the American Medical Association for 1866, writes of this epidemic as follows: "This part of the town was inhabited by healthy farmers and their families. Young people under twenty were most liable to it, and females more than males.

though no age or sex was exempt. At first all the severe cases were fatal, death frequently taking place in ten or fifteen hours; some died before the arrival of the physician who was summoned to attend them. Such a sudden and fearful mortality occurring in a sparsely settled town where every person was known to every other one, caused great alarm and panic which extended soon to the other towns. The character of the disease was not at first understood." It was looked upon as actually a new disease. Whether some of the epidemics of doubtful character which occurred in earlier times may not have been identical with spotted fever is a reasonable question, but without more definite data than have yet appeared one can only surmise. Dr. Henry Fish states that cases occurred also in Hartford in 1807. In September of that year it had spread to Winsted, appeared in Goshen in December, and during the winter and spring had extended to other adjoining towns. Later in 1808 it increased in Hartford and affected Windsor, Wethersfield and East Hartford. It is stated by North that during the latter part of that summer "the common typhus fever broke out among us, and has been very rife." So great was the alarm felt at this mysterious and terrible visitation, that a meeting of physicians was called in Farmington on February 28, 1809. It is stated that "The object of this meeting is to collect from such physicians as have been conversant with the disease commonly called Spotted Fever, the result of their experience in that disease, and to communicate to the people the mode of practice best adapted to its cure." The meeting was held, but so far as I have seen led to no important conclusions. Continuing severe through 1809 and spreading to other adjoining towns, it died down after that, but scattered cases continued to appear until 1815 or 1816.

There are several excellent contemporary accounts of this epidemic written by physicians of the time, and embodying their personal observations and opinions. Especially noteworthy are those by Elisha North of Goshen, Samuel Woodward of Torrington, Henry Fish and Nathan Strong of Hartford. Any one of them might serve as a model of close observation and accurate description. Catlin says of these men, "Dr. Strong was a young

man, the others I knew to be physicians of high reputation among their brethren and in the communities where they resided. With Dr. Woodward I was personally acquainted. He was a man of commanding person, had a strong mind and sterling common sense. When I was a youth he was an eminent counsellor for all the neighboring physicians."

Predisposing causes were found in the cold and wet seasons preceding the outbreak causing a shortage and poor quality of grain and vegetables; the effects of the influenza which had recently swept through the country; and in all depressing agencies such as fear, grief, extreme fatigue, loss of sleep, poor food and exposure. It was not generally considered contagious. Dr. Fish however writes: "There are facts that go to prove that it is infectious." "It is not to be inferred, however, that all, or the greater part of all those who had the disease, received it by infection; on the contrary, many who were ill with it, were not, as is known, exposed to receive it in this manner." "There are many facts which warrant us to believe that it is not more infectious than the common typhus or autumnal fevers of our country."

Data as to the number of cases are incomplete. North, writing to President Fitch February 12, 1808, that is about two months after the disease appeared in Goshen, says: "The whole number of sick may amount to between ninety and one hundred. Of these, six have died." The mortality in Winchester seems to have been much higher. Dr. Elijah Lyman says of Winchester: "It continued to prevail there for two or three months and for some time a great proportion of those that were affected died with the disease." Dr. John Bestor of Simsbury in a letter in the *Mercury*, of Hartford, April 6, 1810, states: "I have been called to three or four hundred sick of this disease within three years." In cases of his own, seen early and followed through, he estimates the mortality as not over one in fifty. The variations in mortality rate in different places are explained by the rule that in most epidemics the rate is highest in the early part of their course, and distinctly lower in the latter part, without reference to methods of treatment.

The years 1812-14 witnessed a series of what were called "winter epidemics," doubtless influenza, which spread over all the eastern part of the country, and as far west as Kentucky. The Transactions of the Physico-Medical Society of New York, Vol. 1, 1817, contains a "Description of an Epidemic Influenza which prevailed over the Northern and Eastern parts of the United States and more particularly as it appeared in the City of New York in the autumn of 1815, by Ansel W. Ives, M.D., Fellow of the Society. Read the 4th of June 1816." It began in New York in late September, rapidly spread both northeast and southwest and was at its height in one month from its beginning, and in two months it had almost entirely disappeared. He makes the statement that: "Contrary to a law of most epidemics, the influenza of last fall was more severe towards its termination than at its commencement, and many who were attacked a second time, were more violently seized, and suffered more than at first." There is a certain amount of interest attaching even now to his statement that: "it is generally known and acknowledged that Cullen's species *catarrhus a contagio*, the *febris catarrhalis epidemica* of Hippocrates, the *tussis epidemica* of Sydenham, and the *catarrhus epidemicus* of Sauvage, are all synonymous with Influenza of the Italians; a name which has of late years been generally used to express the same disease." It seems that there was some difference of opinion as to whether that epidemic was really influenza, and the same as had appeared in 1807.

In the *Medical Repository* for that time, New Series, Vol. 2, among articles bearing on the subject, is an abstract of a communication by Dr. Vine Utley of Connecticut entitled: "History of the Mortal Epidemic that appeared in the towns of Lyme and Waterford 1813." The statement is made that, "It principally affected people of middle age, and in some instances it took off one out of six or eight persons." Two forms were distinguished, one with marked cough but without signs of pulmonary involvement; the other called "typhoid," beginning with distress in the precordia or stomach, head and back, followed by extreme prostration, dimness of vision, and in fatal

cases, set jaws, deepening coma, and death, sometimes in twelve to forty-eight hours. The pulse was slow, at first even as low as 40, later rising to 90-120. The cough and expectoration and general aching pains were prominent symptoms. The disease would appear to have been influenza with a small proportion of virulent pneumonia. Out of 116 patients he lost but few. Dr. Utley was "supported by the testimonies offered by his friends and eminent practitioners, Drs. Thomas Miner and John R. Watrous."

In this same volume in connection with another article we find the following editorial remark: "With pleasure we note here an ingenious expedient practiced by Dr. Vine Utley of Connecticut whereby he could ascertain in doubtful cases, whether bleeding was required or not. He measured the heat of the body by inserting the ball of Fahrenheit's thermometer in the mouth and under the tongue, and took as a safe indication any degree of heat above that of the standard of health. We think that this mode could hardly be exceptionable." How often the thermometer was appealed to at that time I do not know. Dr. North, in his case reports (1810) of spotted fever, mentions the use of the thermometer in two instances, in one of which it is stated that the temperature was taken in the axilla. The clinical thermometer was certainly not in general use at that time.

In March, 1823, there appeared in Middletown an epidemic disease, which later in the same year prevailed also in most of the nearby towns. I have seen two accounts of this epidemic. One is a pamphlet entitled: "Typhus Syncopalis, Sinking typhus or the Spotted Fever of New England, as it appeared in the epidemic of 1823, in Middletown, Connecticut, by Thomas Miner, MD." This was published in 1825, and was reprinted in 1827 in *The Medical Recorder* of Philadelphia. The other is an article in the *New England Medical Review*, Boston, 1827, called, "An account of the Fever which prevailed in Berlin, Connecticut, in 1823. Communicated for this Journal by Samuel B. Woodward, MD."

According to Dr. Miner there had been for at least five years previous to that time occasional sporadic scattered cases of

spotted fever in that region, but it became more evident in 1822, and in 1823 broke out in full force in a dozen towns round about. From March to the last of December two physicians, of whom Dr. Miner was one, treated more than 170 severe cases in Middletown, and more than 180 cases of a milder type, losing in all twelve patients. He distinguished two forms of the attack, the sudden and the insidious, all the deaths that year having been in the latter group, by reason of the fact, in Dr. Miner's opinion, that they were more apt to delay the beginning of treatment. He gives a minute account of the symptoms and their variations, showing close and careful observation. The epidemic continued several years. Dr. Miner notes that petechiae, which were very rare in 1823, were commonly present in the cases of 1825.

Dr. Woodward, who was a son of Dr. Samuel Woodward of Torrington, already mentioned, also gives an excellent description of the disease similar in the main to that of Dr. Miner. His observations were made in Berlin, Newington, and Wethersfield. The epidemic began in June and continued until October, and he estimates that there were about 500 cases and forty-four deaths. He considered the disease as not identical with spotted fever, and yet a "nervous fever." In a note added in 1827 he states that he has seen hundreds of cases since writing his article, and that the disease had continued more or less ever since and had been very fatal in 1824 and 1825. In eighteen days in Berlin he had seen from ten to twenty cases daily, and forty cases in Newington.

Dr. Catlin, in the paper already cited, comments at length upon Dr. Miner's pamphlet. He disclaims any personal knowledge of the disease in 1823, as he did not begin to practice in Haddam until 1825, but he was in a position to get first-hand information and in the first few years of his practice he undoubtedly saw cases of the disease in question. I quote from his account as follows: "Many physicians in Connecticut, and some in Middletown and vicinity, doubted whether any such fever as that described by Dr. Miner prevailed in that vicinity except what was caused by his peculiar treatment. The publication of

the pamphlet produced a great excitement in Middletown. The authorities of the city requested all the physicians to give written opinions respecting the disease then prevalent in the city. The majority of them certified that they saw no disease that answered the description given in the pamphlet in their own practice, but, on the contrary, the cases which they met with were such as required a different treatment. These certificates were published in the newspapers of the city. There was much party feeling in the place at that time, and an unwillingness to have the reputation of the city suffer from undue alarm in reference to the prevalence of the disease." [I may say in passing that I have had no opportunity to look up original sources bearing upon these statements of Dr. Catlin. However, from his character as a man, his nearness to the events, and his evident desire to relate them impartially, I see no reason for doubting his account.] "From subsequent experiences some of which will appear in my report, I was satisfied that there was a low fever prevailing in that region with symptoms different from the common typhus or typhoid fever which also was common at the same time. The similarity between this low fever and the spotted fever were the sudden attack, the cold or cool skin, the subsidentia or sense of sinking at the stomach, pains in the head, delirium, numbness and partial paralysis. It differed from the early disease in the almost entire absence of petechiae, they being present in only two cases of the three hundred and sixty (including the mild cases) in 1823, related by Dr. Miner, though it was said they were more common in 1825." He goes on to describe the symptoms in detail. Among other things he says, "I do not recollect seeing any petechiae or drawing back of the head like cerebro-spinal meningitis during my practice of nearly seventeen years in Middlesex County." In this connection it should be said that the epidemic of 1807-10 furnished precisely parallel instances of the variability of certain symptoms. All observers were agreed that the petechiae were absent in a great majority of cases except in the first stages of the epidemic, and the inappropriateness of the name spotted fever was often remarked. Furthermore, as regards neck rigidity or head retraction, accounts

of the earlier epidemic laid little stress upon it as a characteristic symptom; in fact, it is not always mentioned, leading one to believe that it was decidedly inconstant and among the unusual symptoms, only present in severe cases.

From the evidence at hand it seems to me beyond question that the fever prevalent in Middletown and surrounding towns in 1823-27 was at least in part what we now know as the cerebro-spinal fever, and was identical in character with and probably a lineal descendant of the earlier epidemic of 1807-10.

Dr. Miner's treatment involved the use of very heavy doses of opium, for example, half an ounce of the tincture in the course of an hour, or seventy-five to eighty grains of opium daily for three days. "Opium enough" was his motto. Dr. Catlin believed that it led to much bad practice, and that in some cases the peculiar symptoms resembling sinking typhus were really due to excessive doses of opium.

I will not attempt to follow further the ebb and flow of epidemic sickness in Connecticut, though the years following 1830 were marked by some outbreaks well worth record as complete and authoritative as possible. It should go without saying that in the foregoing account there is no pretense to completeness. I have purposely refrained from discussing malarial fever in this state, inasmuch as its history has been ably handled by Dr. Henry Bronson, as regards New Haven, in Proceedings of the Connecticut Medical Society 1872, and as regards the state as a whole in Report of State Board of Health 1881 by Dr. C. W. Chamberlain, Secretary of the State Board at that time. Nor have I attempted to cover with any fullness the history of smallpox in Connecticut. I am very well aware that I have probably missed sources of information that more time would have made available to me, and furthermore that a longer search might have disclosed valuable unpublished material. I might have said with Osler, "Even for this lesser task . . . I recognize the limitations of my fitness and am not unaware that in my ignorance I shall overlook much which might have rendered less sketchy a sketch necessarily imperfect."

SCIENTIFIC PAPERS.

On the Use of Hinged Splints in the Treatment of Certain Deformities and Fractures.

An Exposition of the Paradoxical Antics of an Eccentric Fulcrum.

LEONARD W. BACON, M.D., New Haven.

Though in truth applicable to the treatment of a considerable variety of lesions, including both actual deformities and the potential deformities incident to many fractures, the principles of the "hinged splint" are exhibited, in perhaps the simplest and clearest manner, in its application to the gradual correction of fibrous flexion-ankylosis of the knee, which use of the apparatus may therefore serve us conveniently as a paradigm.

Two methods of combating this deformity are in common use, first, traction upon the foot and lower leg by weights, and, secondly, the "wedging" of a partly divided plaster cast, according to the method ascribed to Professor Lange, of Munich.

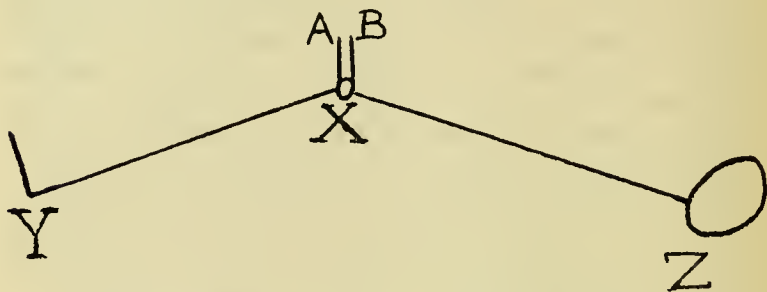
Let us consider then first the straightening of the flexed and ankylotic knee by means of weight extension, and let us analyze the mechanics of the operation. Let us, however, premise the statement that most cases of fixation of the flexed knee are the result of an arthritis of the knee-joint, that efforts at straightening want to be begun as soon after the subsidence of the arthritis as possible, yet that it is necessary to guard very carefully against a reëxcitement of the arthritis through any "insult" to the articulating surfaces of the adjacent bones by forcibly pressing them together.

It would appear at the first glance that all the indications, save that of effective mechanical advantage, were met by traction on the foot and lower leg. Traction is made substantially parallel to the axis of the trunk, and it would seem that the joint surfaces would be virtually, if not actually pulled asunder and not jammed together by the traction distal to the knee. But

closer scrutiny shows that this view is fallacious, and that in fact heavy compression of the joint surfaces occurs, a compression that is many fold greater than the tractive force below.

This paradox is readily elucidated by study of the mechanics of the problem.

In the flexed knee with contracted hamstrings we have virtually a tongs. As the patient lies on his back, with heel and buttock resting on the bed or table, the hinge of the tongs may be considered to lie in the tendons of the contracted hamstrings, along a line behind the joint, substantially in the plane of the articulating surface of the tibia.



If, in the diagram above, X represents this hinge-point, then Y-X may represent the lower leg and foot, as one handle of the tongs, and Z-X will represent the thigh and pelvis, as the other handle of the tongs. The jaws of the tongs will then be represented by the articular surfaces of the tibia and of the femur, indicated by the lines A-X and B-S respectively.

Now it is evident that the separation of the handles, Y-X and Z-X, of the tongs is going to result in pressing together the jaws, A-X and B-X, of the tongs; and it is likewise evident that the mutual compression of the opposed surfaces of the jaws will bear the same proportion to the force separating Y from Z that the length of the handle Y-X bears to the length of the jaw, A-X; and that, in view of the relation between the length of the leg, Y-X, as one element (the handle of the tongs) and the antero-posterior diameter of the knee as the other element (the jaws of the tongs), this mutual compression of the articulating

surfaces is many fold greater than the force applied to draw Y and Z apart, so as to bring them into a straight line with the hinge, X.

In actual practice, the effect of this joint-surface compression in revivifying a recent arthritis has proved so active that the attempt to straighten the flexed joint by traction has had to be, in many cases, either abandoned or postponed.

To mitigate these untoward effects the method of "wedging" was introduced. In this method the limb is encased in plaster of Paris and the plaster shell is cut through, in the line of the articulation, for about three-quarters of its circumference. Opposite the popliteal space a thin wooden wedge (in practice, most conveniently a "throat-stick" or wooden "tongue-depressor") is introduced into the cut made in the plaster, and daily an additional wedge is inserted until a sufficient thickness of wedges has been placed to widen the gap opposite the popliteal space to such an extent as to force the leg and thigh into full extension.

Two practical inconveniences have been found to attend this method of extension. First, the operation is found to develop a considerable amount of pressure on the skin over the patella, causing pain, and only imperfectly obviated by the interposition of a thick cushion of felt over the knee. Secondly, where the angle of the deformity is considerable, the uncut plaster in the region of the patella crumbles, after a certain number of wedges have been inserted, and the cast has to be removed and reapplied to complete the extension. Moreover, the mutual compression of the joint surfaces, though mitigated, is not overcome, and to the compression between the tibial and femoral articular surfaces is superadded a very decided, and most undesirable compression between the articulating surfaces of the patella and the femur, often the occasion of pain, and prone to result in recrudescence of the arthritis. The wedging process represents, however, a distinct advance over the method of extension by traction, in that the fulcrum about which the levers swing is moved from below, or rather behind the knee, in the plane of the hamstrings, to a plane much nearer that of the patella.

The true mechanical principle to employ in the extension by leverage of a flexion-ankylosis is *to bring the fulcrum upon which the levers are to swing beyond the apex of the deformity, so as to combine with the extension the element of distraction.* To accord with this general principle of sound surgical procedure, in the case of the knee-joint, the fulcrum should be *in front of the patella*, not *behind it*, as is virtually the case when extension is made by traction on the lower leg, nor *at about the plane of the patella*, as in the ordinary method of "wedging."

This principle is squarely met, but is rather cumbrously and awkwardly carried out by Turner's "irons." A much simpler and handier method is by the use of a hinged splint, as devised by the writer, which apparatus carries with it many incidental advantages and possibilities which it is the object of this paper to indicate.

The application of the apparatus is extremely simple. As the first step the limb is encased in "stockinette," over which is laid a few thicknesses of "sheet-wadding," most conveniently applied in the form of loosely rolled bandages. As no pressure at all will be exerted over the patella, it is unnecessary to provide a special felt "knee-pad," as in the wedging process. On the other hand, if we are to obtain the full benefits of the "distraction," or pulling asunder of the joint surfaces, which the apparatus is capable of affording, it will be well to place moderately heavy felt cushions in three places where increasing pressure must come with the progress of the extension, to wit, over the front of the ankle-joint and the dorsum of the foot; over the tendo Achillis and the protuberance of the heel; and over the tuberosity of the ischium and along the femoro-perineal fold.

Over the leg thus swathed and provided with pads at the points indicated is then applied, as a second step, a light plaster of Paris casing, which should extend downward, to include the foot, as far as the toes, and upward, as far as the perineum and the groin.

As soon as the limb is encased in the plaster of Paris, an 8-in. malleable iron strap-hinge, such as can be purchased for a few cents in any hardware store, is laid "wrong side out," i. e.,



FIG. 2. X-ray of hinged splint applied to anchylotic knee with cast divided in a line bisecting the angle of deformity. Observe that the fulcrum, *i. e.*, the hinge-pin, lies at least $1\frac{1}{2}$ in. above the patella and also the space beneath the hinge-pin where the plaster has been entirely cut away. Obviously no patellar pressure can occur. Observe also that the line of division of the "plaster-cast" comes not opposite the articulating surface of tibia and femur but passes through the axis of rotation of the knee-joint which lies an inch or more nearer the pelvis.



FIG. 3. Hinged splint applied in position of original deformity. Observe hooks carrying rubber bands, also wooden "plinth." The photograph was taken after straightening had been completed and it is only by voluntary contraction of the hamstring muscles that the leg is brought back to the position of original flexion. Observe that just above the malleoli a ring has been removed to relieve pressure on the dorsum of the foot and on the heel which developed in the process of straightening. A strip of adhesive plaster holds the cut ends of the cast together. Observe that in this flexed position the top of the cast fits loosely about the thigh.

with the hinge-pin away from the patella, upon the anterior surface of the "plaster cast." When adjusted as conveniently as possible to the leg and the thigh, the hinge will, *ipso facto*, lie in such a position that the hinge-pin will be in the plane bisecting the angle of deformity, and it will be found to occupy a position from 1 in. to $1\frac{1}{4}$ in. in advance of the patella. By tucking in fresh, wet plaster bandage beneath the edges of the hinge, and by buttressing it laterally with additional plaster bandage, the hinge should be evenly and securely bedded upon the anterior surface of the "plaster cast," and when the hinge is so bedded, the originally very light "cast" should be quite generously reinforced by turns of plaster bandage as far as the hinge reaches, i. e., 8 in. above, and as far below the knee, which turns should, of course, include and cover in the hinge and bind it down to, and practically incorporate it with the "plaster cast," as first applied.

To simplify our description let us suppose that the power we are to apply to effect our extension is the familiar one of wooden wedges opposite the popliteal space, as in the procedure ascribed to Lange. In that case, all that it is necessary to do to prepare the apparatus for "wedging" is to divide the "plaster cast" throughout its whole circumference in the plane bisecting the angle of deformity, thus converting the apparatus into two, contiguous "plaster casts," the upper "cast" extending from the perineum to the knee, and the lower from the knee to the toes, the two "casts" being joined together by the hinge in front of the patella.

If, indeed, we are to use "wedging" to obtain our extension, the apparatus is now complete, save for the introduction, opposite the popliteal space, of the wedges themselves. This, however, should be postponed for twenty-four hours or more after the application of the hinged splint, to allow the plaster of Paris to set and harden.

For the purpose of simplifying our description it has been convenient to choose wooden wedges opposite the popliteal space as the means of extending the flexed knee; in actual practice a much better means of extension is by rubber bands, conveniently

$\frac{1}{2}$ in. wide and 4 in. long, such as are used to hold bundles of letters or documents. For this purpose, some slight additions to the apparatus are convenient. The first of these is the secure fixation of a hook to the front of the cast, at a point about midway between the ankle-joint and the tibial tuberosity and of another hook at about the junction of the upper and middle thirds of the thigh. These two hooks should be so placed as to be just in line with the center of the hinge-pin.

A second addition is a wooden "plinth," a triangular prism, measuring on each side about $1\frac{1}{2}$ in., which may advantageously be used, like the bridge of a violin, to enhance the mechanical advantage of the action of the rubber bands.

The rubber bands can readily be slipped on or off the hooks, by the surgeon, by the nurse or by the patient himself, thus diminishing the amount of tension in a moment, in case it proves too burdensome, or increasing it, if not sufficiently efficacious.

Eight to ten rubber bands, $\frac{1}{2}$ in. wide and 12 in. long (constructed by linking together three of the 4-in. stationer's bands), when stretched to 24 in., which may be taken as an average distance between the hooks in an adult, will exert a tractive force of from 48 to 60 lbs. A large, indeed, a very large proportion of this seemingly great tension is expended in inert strains and stresses on the apparatus, yet a certain proportion is exerted in extending the leg on the thigh. As long as the "plaster cast" and the iron hinge remain firm, we may ignore that element of our tractive force which is dissipated in strains and stresses within the apparatus, and we may add safely enough to our tension until we get the effect we seek, and we need not be frightened by calculations of 50—60—80 lbs. between our hooks.

We have already announced one paradox, namely, that by pulling down on the foot and leg in a line parallel to the axis of the trunk, we were actually forcing the tibia against the femur, instead of pulling them asunder. Behold now a greater paradox, in that by *traction* exerted from the femur upon the leg we tend to pull these two bones, not together, but *asunder*, and by this selfsame *traction* from thigh to leg we exert a *thrust* upon the foot and upon the pelvis, which demands the most

careful cushioning to make it bearable; and this thrusting pressure it is, and not the strain on the joint structures, intrinsic or extrinsic, pathological or normal, nor yet the contracted hamstrings, which sets a limit to the amount of power we can apply through our apparatus to the correction of a flexion deformity of the knee. In short, we have constructed that most powerful of mechanical appliances, a "toggle-joint"; and this, by virtue of that "nigger-in-the-woodpile," an eccentric fulcrum.

But let us now see if we cannot find some incidental advantages to be derived from the paradoxical antics of our eccentric fulcrum.

While it is desirable to remove all pressure, so far as possible, from the articulating surfaces of the knee-joint, and while it is even desirable to do more than this, and even exercise a positive distraction, or pulling apart of the joint surfaces, yet there is a limit to the amount of force which it is practicable to exert in this direction, though the amount of force we *may* apply with this apparatus, if need be, is limited only by the play of our "toggle-joint," and, as the sides of our strap-hinge, which is the thrusting element of our "toggle-joint," approach to 180 deg., the thrust increases, theoretically, to enormous proportions; practically, however, greatly limited by the yielding of the plaster of Paris structure, with which it is only more or less rigidly incorporated.

In cases where the distraction of the joint surfaces is deemed unnecessary, we can eliminate this element in the apparatus altogether by simply making the "plaster cast" shorter, so that it reaches neither to the perineum, above, nor to the ankle, below, but, as the flexion deformity is overcome, the "plaster cast," under the thrust of the opening angle of the strap-hinge, simply slides upward over the thigh, and downward, over the leg, without being long enough to impinge either on the pelvis or on the foot. Such use of the apparatus might be permissible in "rheumatic," or simply "toxic" cases, where the arthritis which provoked the flexion deformity may be supposed to have arisen from a merely "chemical trauma." In cases, however, of actual bacterial invasion of the joint, such as an old suppurative arthritis,

or a "healed" tuberculosis of the knee, it will be the part of wisdom, in order to reduce to a minimum the changes of recrudescence of the arthritis, even at the cost of painful pressure elsewhere, to accomplish the correction of the flexion deformity of the knee with the safeguard of as much distraction of the joint surfaces as it is practicable to maintain during the straightening process. Available distraction the hinged splint affords in superabundant measure, and the only problem is to so arrange matters as to utilize this valuable safeguard to the utmost, without causing too much pressure on the foot and on the pelvis.

The first and most obvious means is to dispose moderately thick and elastic felt pads about the three points indicated above. It should be remembered, too, that the pressure can be instantly lessened, or released altogether, without other detriment than loss of time, by removing one or more, or, if need be, all of the rubber bands.

It is a matter of judgment to determine when it is best to reduce the element of distraction in favor of a larger element of pure opening out of the angle of flexion deformity; and it is always necessary to bear in mind that the very thrust against foot and pelvis, of which the patient will probably complain much more than of pain in the ankylosed knee or in the contracted hamstrings, is the very best safeguard and insurance against purchasing a straightened knee at the cost of a recrudescence of the arthritis. The surgeon will, therefore, at least in old septic and tubercular cases, not move too quickly to relieve pressure at the upper and lower ends of the "cast," save as he may be ready to ease it by casting off one or more of the rubber bands. The occurrence of actual pain in the *knee*, however, should be a signal for prompt lightening of the strain, or even for postponing the whole procedure.

If, however, the surgeon decides that the straightening cannot proceed further without lightening the pressure at the extremities of the apparatus, the way in which this should be accomplished is not by cutting away the plaster at the point of pressure, but rather by removing a complete ring of the "cast," about $\frac{1}{2}$ in. wide, just above the malleoli, making the cuts even and true,



FIG. 4. Same case as Fig 3, knee drawn by rubber bands into extended position. Whereas in the preceding figure the knee was flexed by muscular action, no muscular contraction is being exerted here to hold the lower leg in full extension, this being accomplished by the traction of the rubber bands. Observe that the effect of the thrust from the eccentric fulcrum can be seen in the tightening of the upper end of the cast about the tissues of the thigh. The thrust on the foot has had to be relieved by the excision of a ring from the plaster cast just below the malleoli. Painless voluntary motion is possible through the arc representing the difference between the position in this figure and that in Fig. 3.

preferably with a saw, naturally taking off all the tension before doing so. When the tension is reapplied the two cut surfaces will be forced together, and the "cast" will have been shortened by just the width of the ring that was removed. The force of the artificial muscle will now be employed more in straightening and less in distraction. A firm band of adhesive plaster, 2 in. to 3 in. wide, around the cut will practically maintain even apposition of the cut edges of the "plaster cast."

After a day or two it may be necessary to alter again the play of the apparatus by removing another half-inch ring at the ankle, and, perhaps, one such ring from over the middle of the thigh. As long as no pain is felt in the knee, the surgeon may feel pretty safe in removing, if necessary, several half-inch rings from the ankle and from the thigh, but in cases of "healed" septic and tubercular arthritis, it is prudent to maintain some thrust against the foot and against the pelvis throughout the whole period of straightening, and indeed, for some days after full extension has been attained. As soon as the surgeon comes to feel perfectly certain that no untoward reaction is going to develop in the joint, he may add to his patient's comfort by cutting away entirely that part of the "cast" which surrounds the foot, and by shortening the upper end of the "cast" so that it shall no longer impinge against the pelvis, and the patient may, for some weeks, continue to wear the shortened apparatus for the purpose of maintaining the correction. In "rheumatic" cases, where the element of distraction is not thought to be necessary, the process of straightening can be carried through almost entirely without pain, or even discomfort.

There is one very great advantage which the rubber bands develop over the wooden wedges. When the latter are used the limb may indeed be straightened, but the ready mobility of the limb is not immediately restored throughout the newly gained arc of motion, and the deformity, moreover, is very prone to relapse when the apparatus is removed. When, on the other hand, rubber traction bands are used, the hamstring muscles, though constantly subjected to a traction that we may make as heavy as we choose, remain always free to contract volun-

tarily to the point of the flexion deformity originally present when the "cast" was applied. In fact, the promptest manner in which the patient can obtain relief from the pressure at either extremity of the "cast," is by flexing the knee voluntarily against the traction exerted by the artificial extensor. Just as soon as the voluntary contraction of the hamstrings ceases, the artificial quadriceps extensor comes at once into play to extend the knee again to the full extent that the state of the contracture will permit, and the constant play and exercise of the knee through the alternating voluntary contraction and relaxation of the hamstrings has three great advantages over the steady and unrelaxed extension by wedging; first, it gives assurance of the prompt restoration of mobility throughout the newly acquired arc of motion of the knee, and prepares the long-unused portions of the articular surfaces of the joint for weight-bearing; secondly, it promotes much better nutritional conditions in the contracted hamstring muscles than when by the fixed wedging they are subjected to unrelaxed extension, and thus favors a *restitutio ad integrum* in the sclerotic muscle fibres; thirdly, it appears at least probable that the tendency to the recurrence of the deformity will, by this last factor, be lessened so that the apparatus can therefore be discarded more promptly when the hinged splint is actuated by elastic rubber bands than when the same apparatus is actuated by unyielding wooden wedges.

This somewhat detailed consideration of the application of the hinged splint to the correction of flexion-ankylosis of the knee will have brought out the general principles of the apparatus, and has shown that, thanks to the eccentricity of the fulcrum, which is situated in advance of the apex of the angular deformity, the opening of that angle to 180 degrees, which is the primary object aimed at, entails, as a corollary, a very marked thrust away from the knee, both upward, toward the pelvis, and downward, toward the foot.

DISCUSSION.

DR. ANSEL G. COOK (Hartford): I feel certain that none of you who are not orthopedic surgeons have any idea of the value of the paper to which you have just listened. Many men have studied hard and done good work, and have a deserved reputation for skill, and yet they have added nothing to the sum total of human knowledge. The application of these principles to orthopedic practice is absolutely new. The fact that traction in the line of the body makes intra-articular pressure has long been known. We have sought to avoid this by making traction in the line of the deformity, and for this purpose we have repeatedly made all sorts of rests for the femur to lie on. Nothing like the principle of the eccentric fulcrum has ever been applied before. It is the application of a well-known mechanical principle to a new use. This paper is not only new but it is valuable. It is new because the principle has never been used before. It is so simple that if one once sees it applied he wonders why he himself has not thought of it before. Dr. Bacon has now told us of it, and shows us how to do something that we were unable to do before, but have wanted to do, in an efficient way. The use of the rubber bands is not new and not original, and if Dr. Bacon will pardon me, I don't think they are desirable. You know that no orthopedic surgeon will use the device of any other one unless he is forced to. If Dr. Bacon objects to this, I have only to remind him that it was this same attitude of mind that made him devise this very valuable splint. We have used so many of these rubber bands in the treatment of club foot and with the Thomas Splints that we have come to believe that a steady pull is better. When I go home and have a chance to use this new method, I shall use a strap and a buckle instead of the rubber bands.

Bone Regeneration.

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My title is too broad for this discussion, since the contribution is a consideration of the function of the periosteum and its limitations in actual bone growth.

In operations upon bone the surgeon should have accurate knowledge of the potentialities in growth of the constituent structures of bone, for, it is only upon a basis of such information that he can nicely discriminate between parts to be removed and those to be preserved. The widest divergence of opinion has existed since the first observations were made and it is only in the literature of the past few years that there is evidence of increasing agreement in the terminology and views.

The greatest confusion has arisen, I believe, by loose definition of the periosteum, so that sub-periosteal resection of bone has not meant the same thing to all observers. Extensive experience with the chronic bone lesions resulting from war injuries led me to conclude that bone regeneration and growth are often independent of the periosteum. Fragments of bone were driven into abnormal locations and these fragments, devoid of periosteum and endosteum, were found alive and growing, forming nodules of new bone. Conversely, the extensive regeneration of ribs shown in reoperated cases of empyema, in which sub-periosteal resection had been done at the primary operation, indicated the regenerative power of what had been left behind—periosteum, and, I believe, something more.

The recent literature shows especial interest in the life history of bone grafts. Consideration of the behavior of transplanted bone is but casually included in this study.

Anatomically, the periosteum is a dense fibrous membrane covering the bone, excepting where covered by cartilage, and is reflected upon the surface of the tendons. From it capillaries pass to the bone canals and extensions of it, Sharpey's fibres, enter the canaliculae. Strict differentiation requires that no

other structures be included under the term. The conflicting opinions of the osteogenetic power of the periosteum are undoubtedly due to the fact that there is no standard technic for resection, nor a well-defined point of surgical cleavage between the periosteum and sub-periosteal bone.

The foundations of our knowledge of bone growth were laid in the 18th century by Duhamel, in France, and Hunter in England. Duhamel believed that the periosteum is the sole maternal source of bone growth, while Hunter, influenced by Haller, ascribed to the arteries this function. In spite of Hunter's entire misconception he made an important observation, namely, that bone generation and absorption go on *pari passu*.

Early in the 19th century Syme and Goodsir, in Edinburgh, added to the existing knowledge, again perpetuating the two schools of osteogenesis; Syme urging the periosteal, and Goodsir the osteal theory. Goodsir demonstrated the existence of true bone cells with dual function of genesis and absorption.

About 1860 Ollier, of Lyons, firm in the belief that Duhamel and Flourens had been faulty in their conclusion that periosteum generates bone, began his classical work resulting in dicta which remained for half a century the basis of practice in bone surgery and confirming Duhamel's position. He concluded that the periosteum has the chief bone-forming power, the marrow slight, and the bone itself a negligible part in regeneration. He stated that without periosteum grafted bone could not regenerate living bone. Ollier's position was brilliantly controverted by McEwen of Glasgow who began his experiments in 1877. He proved to his satisfaction, that bone transplants, without periosteum or endosteum, will live, grow, and regenerate bone. He reproduced Ollier's experiments and persuaded himself, and his followers, that the periosteum, as such, had no regenerative power, and in his book published in 1912 states, "there are no data at the present time to indicate that the periosteum can, of itself, secrete or reproduce bone." He looked upon the periosteum largely as a membrane to prevent bone-building cells from escaping into surrounding tissue.

Adami, commenting upon McEwen's beliefs, says, "We are

not as yet prepared to accept these views, holding the opinion that these observers have dealt only with the outer or fibrous layer, and not with what may be termed the cambium or mother-cell layer in immediate contact with the actual bone."

The perpetuation of the divergent views regarding the osteogenetic power of the periosteum is, I believe, based solely upon the lack of a standard technic in experiments and surgical observations.

It seems that the opposing positions of Ollier and McEwen are dependent upon the difference in depth to which their rugines penetrated, thus giving rise to the common mistake of drawing conclusions from similar but not identical premises.

Mayer and Wehner, Kutner, and Phemister combat McEwen's opinion and hold that growth is solely by the osteoblasts arising from the periosteum, endosteum and lining the Haversian canals, and that the adult bone cells form no new osseous growth. Their data, however, does not disprove McEwen's position since it has been shown that transplanted bone devoid of periosteum and endosteum may and does contain active osteoblasts.

Duhamel and Lamare, LeMaitre, Leriche and Policare, and Pachammer, agree, in the main, with Albee whom I quote as follows: "It seems certain that osteogenesis on the part of periosteum, removed from healthy bone, is largely dependent on the presence of active embryonic cells from the outer surface of the cortical bone. Therefore, the wisdom of the use of the sharp periosteum elevator in bone resection is apparent, if a regeneration of bone from the periosteum is desired."

DeGualejac and Nathan state that in the regeneration of shafts of bone it is the middle layer of the compact bone which is the fertile element. Reacting to trauma and inflammation it returns to an undifferentiated state, and proliferates even into adjacent connective tissue if the restraining barrier, the periosteum, is removed.

Davison and Smith, in their recent book, state that, "After subperiosteal resection of a shaft of bone invariably the entire diaphysis will regenerate from the periosteum and completely fill the gap." And per contra and it seems to me more con-

servatively, they conclude that "the subperiosteal resection of the periosteum may, or may not, remove any of the osteogenetic cellular constituents. . . . The removal of the osteogenetic cells is dependent upon the individual technic employed and macroscopic evidence is no criterion as to their presence or absence. Regeneration of bone from transplanted periosteum cannot be accomplished without the presence of some cellular components of the peri-osseous osteogenetic layer."

Thus, from the writings upon the subject, it seems clear that modern opinion leans to the belief that the periosteum, as we have defined it, is not a source of bone growth excepting that it furnishes nutrition by its blood supply, that the greatest generative power is possessed by the subperiosteal layer of cortical bone, and, a lesser power by the compact bone and the endosteum.

As examples which lend some proof I present two cases, with lantern slides, one which shows that periosteum carefully peeled from underlying bone, with the removal of no cortex, has no, or at most accidental, osteogenetic power, while the other case demonstrates that periosteum removed with attached chips or layers of subperiosteal bone undergoes rapid regeneration.

Case A, aged 8, was admitted to the Greenwich Hospital October 11, 1916, complaining of a swelling of the left leg. This was first noticed about two months before and had gradually increased in size. The child limped although he stated that he had no pain nor tenderness. The maximum swelling was at the center of the tibia, fusiform in shape, hard and practically painless. Two weeks before, the Health Department had reported his Wassermann negative. X-ray plates showed bone thickening and obliteration of the medullary canal. Presumptive absence of syphilis and rapidly growing tumor led us to explore and operation was performed October 12. The periosteum, incised vertically well beyond the swelling, was normal in appearance. It was stripped laterally with great care not to include bone cortex. The bone was chiseled at the center of the swelling. It was sclerotic and had nearly obliterated the medulla. A diagnosis of osteo-sarcoma led me to excise five inches of the tibia subperiosteally. Since the periosteum was not involved in the growth it was left undisturbed with the hope of regeneration in the absence of recurrence. The wound healed by first intention. The pathologist reported that the growth was inflammatory with no evidence of malignancy. Upon the receipt of this report I urged early autogenous graft from the other tibia but the parents refused consent and have con-

sistently persisted in this refusal. No clinical evidences of syphilis have appeared to date. Regeneration has occurred only at the bone ends which have increased in length, but the periosteum has shown practically no growth. I believe that the slight subperiosteal growth shown in the plates has resulted from cortical bone left attached to the periosteum in spite of pains taken to prevent it. An apparently healthy and intact periosteum, with undisturbed blood supply, has shown no useful power of regeneration.

Case B, aged 13, was admitted to the Greenwich Hospital May 5, 1919, complaining of discharging sinuses of the right leg. The history clearly indicated that the case was one of self-limited acute osteomyelitis of the tibia with resolution by sinus formation and sequestration. He had been treated with a sequence of anti-rheumatic remedies, adhesive strapping and local applications. X-ray plates showed necrosis of the shaft with multiple perforations of the periosteum. Wassermann reactions before and after operation were reported weakly positive. Operation was performed May 5. The entire diaphysis, excepting the upper inch and a half, was necrotic. The shaft was removed subperiosteally. Attached to the periosteum there remained fine chips of living bone. These chips were carefully preserved. The wound was treated by the Carrel-Dakin technic and was finally healed August 7. Spectacular regeneration has occurred as demonstrated clinically and by the X-ray. The shaft has regenerated from the numberless live bone foci which were left behind as fragments attached to the periosteum.

The practical bearing of these observations is—that on the one hand subperiosteal resections may be done with small probability of regeneration, a thing to be greatly desired in rib resection for empyema because of the frequent persistence of sinus due to osteomyelitis of new forming bone; and on the other, that in resections in general, extraordinary care must be taken to leave attached to the periosteum a layer, however thin, of the cortex or cambium, if regeneration is to be expected.

In conclusion, I believe that it is true, First, that periosteum, as such, has no independent osteogenetic power, and Second, that the power of regeneration resides chiefly in the outer layers of the cortical bone.

DISCUSSION.

DR. PAUL P. SWETT (Hartford): There is very little for me to discuss, since I agree entirely with Dr. Hyde in his conclusions on the value of the periosteum in the regeneration of bone. We have been led into a discussion for a good many years in this controversy depending almost

entirely on differences in surgical technique. The whole question seems to depend on how sharp a periosteal elevator is employed; if only the fibrous layer is removed it contains no osteogenetic capacity; the periosseous membrane is the one that has the osteogenetic capacity and it has very much less density; it is partly attached to the fibrous layer of periosteum and dips down into the cortical bone itself, so that it is a question whether it is actually a part of the periosteum or a part of the cortical bone. However, so far as the grafting or transplanting of bone are concerned, we must bear in mind that the periosteum plays a rôle of importance in so far as the nutrition of the transplanted bone is concerned. A larger number of successful transplants can be made if the periosteum is kept intact, and as a practical matter we should bear that in mind when separating the periosteum in the transplantation of bone.

DR. E. H. ARNOLD (New Haven): I also agree with the previous speakers that this is chiefly a matter concerning technique. Two years ago I read before you a paper on bone grafting, and in the discussion was asked about my management of the periosteum. I said that it made little difference whether the periosteum went with the graft or not, that it kept alive either way and that the osteogenetic elements lie in the cortical part of the bone. However, what Dr. Swett says is true, where we want to make doubly sure we had better take the periosteum along. In plastic work where we don't want the graft to proliferate, the periosteum may serve the function of a limiting membrane. I have so used it in bone grafting. In the upper part of the spine and where the size of the spinous processes permit I have followed Albee's method of splitting and putting in the trough so made my graft periosteum upward. That has worked very well. In grafting, however, for fixation of the sacrum such inlay into the spinous processes is practically impossible for they are too shallow on the sacrum. I have, therefore, put my grafts alongside to the left and right of the spinous processes of the lumbar region and sacrum in order to get fusion between graft and sacrum. The periosteum has to be lifted off the spinous processes and laminae. In several cases in a rather large number of such operations I failed to get fusion though the graft lived. On reflection I ascribed such failures to the difference in the technique of lifting up the periosteum. Where I had lifted it up with a blunt lifter I had some failures and upon changing to the use of a sharp periosteum lifter and chiselling a trough into the cortical layer of the sacrum I have had no failures since. This is explained by what Dr. Hyde said in his paper and his advice should be closely followed. When we come to use bone grafting for plastic work the question of whether we wish to get bone regeneration of simply the size of the graft, or proliferation, must determine the method.

Correction of Nasal Deformities by Combined Submucous and Subcutaneous Method under Local Anesthesia.

SAMUEL M. HAMMOND, M.D., Hartford.

By its location and anatomical construction, the nose is particularly liable to injury, the results of which are most apparent. "Plain as the nose on your face," is still the ultimate of clearness. Beside those due to trauma, we find deformities due to disease; syphilis, tuberculosis and tumors; occasionally as result of surgical procedure; and finally from faulty development of the nose.

The commoner forms are known as crooked or cork-screw nose, hooked-nose, dropped-nose, saddle-back, the flat and the pinched nose. All are prone to be accompanied by malformations within the nose that militate against proper breathing.

I have long felt that the nose has been more neglected than any other organ of the body in the curriculum of our medical schools. Few realize that this organ secretes two quarts of water in twenty-four hours to moisten the air we breathe, or that air at zero or below, breathed in, is delivered to the throat at normal temperature; that one's intake of oxygen may vary by fifty per cent due to improper functioning of this organ. A good nose is so important to the individual health, comfort, and well-being, that it seems a few hours more time might well be given to its study.

In dealing with these deformities it is of first importance to establish proper breathing channels. This means trimming excessive turbinate tissue, and by sub-mucous resection removing all ridges, spurs, thickened and deflected areas of the septum.

Long ago, I became impressed with the improved appearance of some of these cases, especially the crooked-nose type, as result of sub-mucous resection. Having seen some of the results of paraffin injection—a not too surgical procedure,—and so often

unsuccessful, and having read of Dr. Wesley Carter's work in New York, of reconstructing the nasal bridge by use of a resected portion of a rib, some two years ago, it occurred to me that it would be much simpler to avail oneself of the material at hand after submucous resection for a like purpose, and do the work submucously and subcutaneously. At the time I supposed this was original but later learned that at least two other men had been using this method for some time.

Again, eight months ago, I ran across two cases in which the nasal depression was too great to be filled by the products of septal resection, so made use in one case of the larger part of a middle turbinate, and pretty much the entire, very much enlarged, inferior turbinate in the other. Verily "there is nothing new under the sun" for about six weeks later I received a reprint describing a similar proceeding.

We much prefer local to general anaesthesia for these cases: first, because it is simpler; second, the field of operation is much freer from blood; third, because it is absolutely efficient and finally it avoids the danger of vomitus entering the nasal passage as frequently occurs after ether.

For some time we have been using a ten per cent solution of crystals of cocaine in one to one thousand adrenalin solution. This is carefully rubbed into the septum, on cotton wound applicator, covering its entire surface and repeated until the anaesthesia is complete. The adrenalin solution by its effect on the smaller blood vessels apparently prevents any but a local absorption of the cocaine. Certainly we have nothing like the ill results of former days when we used a watery solution of cocaine even in smaller percentage.

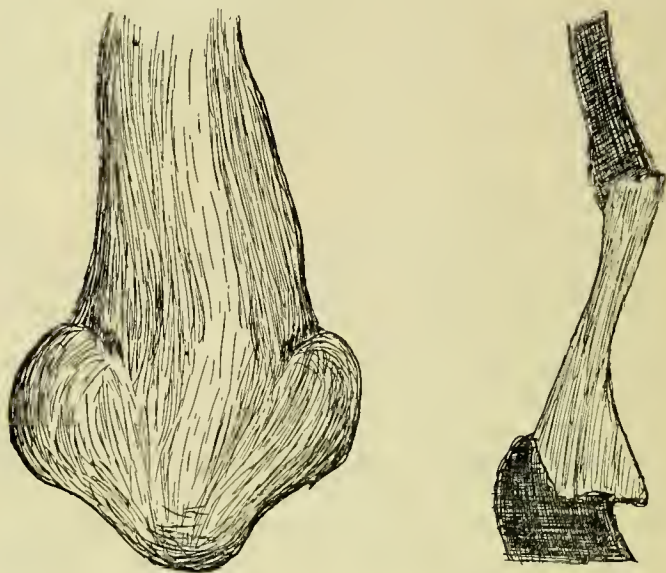
We now proceed with our submucous resection, carefully saving such bone and cartilage removed as may prove available, and keeping it in warm sterile saline solution. We sew up our incision these days and use no packing after submucous resection; strangely our cases seem to have less bleeding and certainly much less discomfort than in the old days when six or seven yards of vaselined gauze was packed in either nostril.

After having corrected our internal deformities we are now

ready to work on the external, making use of differing measures according to the type we are dealing with.

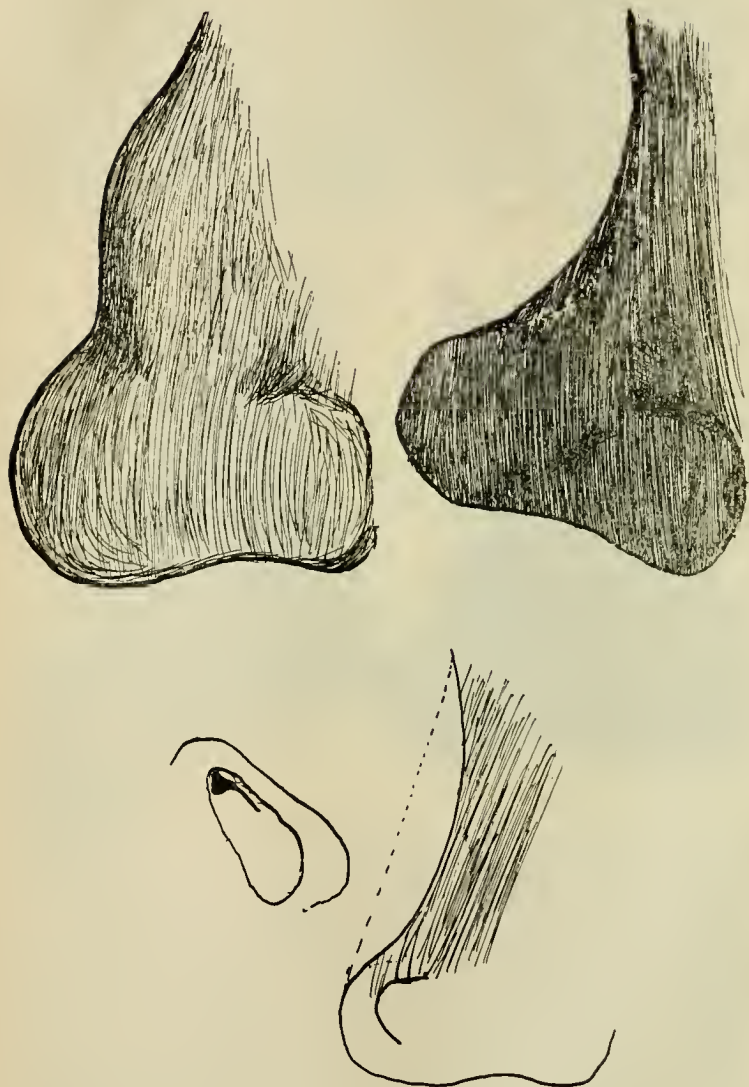
Let us consider the crooked or twisted nose first.

Frequently our submucous resection has almost completely cured the deformity, leaving perhaps a little manual work in moulding the soft part into proper place. Sometimes considerable pressure must be used and again we may need to remove a bit of bone or insert a piece of bone or cartilage to fill up some

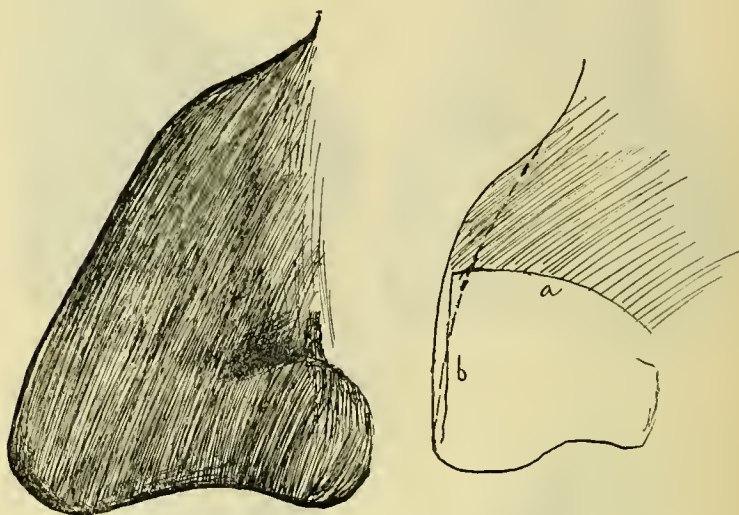


depression. We then make use of the technique as in the depressed, drop, or saddle-back type.

First we insert a pledget of cotton saturated in solution of cocaine, carbolic acid and menthol, equal parts, into the anterior lower angle of the left nostril, prepare a hypodermic of cocaine $\frac{1}{4}$ of 1% adrenalin, $\frac{1}{20,000}$, in sterile saline solution. After five minutes we remove our pledget of cotton and paint the line of our incision with iodine followed by alcohol. This incision is made from $\frac{1}{4}$ to $\frac{1}{2}$ inch within the left nostril at the junction



of the septum and lateral wall. We use a very sharp flat knife and continue well up beneath the skin, dissecting the skin and subcutaneous tissue well above and to both sides of the area selected for our insert. Thanks to our hypodermic we have neither pain nor any great amount of bleeding. We then shape from one of the bones or cartilage fragments taken from the septum our insert, paring it with knife or scissors to required size and shape and inserting it with slender forceps. If necessary

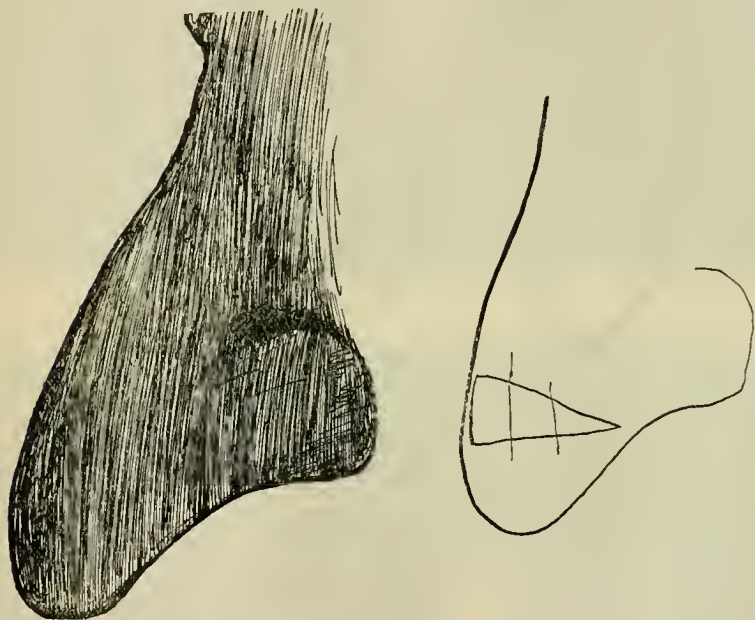


we can superimpose one or more inserts till we entirely correct our deformity. Then one stitch and our operation is complete.

In dealing with the hooked or exaggerated Roman nose, our problem is a different and more difficult one. After our sterilization, and anaesthesia, an incision is made along the border of the nasal process of the superior-maxillary bones in both nostrils. With sharp dissector we then elevate the entire tissue, including the periosteum, from the nasal bones clear up to the root of the nose and over the nasal processes of the superior-maxillary down to the cheeks; this to avoid wrinkles and redundant tissue after removal of the hump.

Where the cartilage is also included in the deformity another incision must be made along the edge of the septum parallel with the bridge of the nose. We then dissect away the membranes, and with scissors or curette remove strip of cartilage.

After our elevation is complete, by means of chisel, saw, rasp, or reversed chisel, an instrument I have found most useful, we remove the hump, carefully place our rubber tissue drains, and mould our soft parts into shape.



The long tipped nose can be remedied by removal of a triangular piece of cartilage and suturing up the membrane with two or three stitches on either side. Great care, however, must be used not to take off too much; error on the too little side can be readily handled by simply removing another small strip; applying the simple rule of "try and fit."

One very interesting case came to me about two years ago, in which there was congenital lack of any triangular cartilage.

The nose was broad and flat with no tip, but rather a rounded bulbous ending (a). We first did a submucous resection to relieve his nasal stenosis. Then we split the entire septal membrane, working from our incision forward clear to the columella. Then we attempted to insert a quadrilateral piece of the vomer,



but could not push out the nose to accommodate it, as we did not have sufficient material for a new columella. This we secured from the upper lip, as shown in the sketch (b); then elevated it into position and inserted the quadrilateral piece of vomer, giving him a nose of contour (c). It was still rather broad at the tip with nares very broad and quadrilateral in shape. A later plastic operation on both sides remedied to a large



Photo 1.



Photo 2.



Photo 3.



Photo 4.

degree this defect, and I am happy to say the young man now has a very presentable nose.

Another case of very marked deformity came to me last summer. Some two years previous, while swinging on the backs of two seats in school, one gave way and he fell, striking a direct blow upon the nose. I have a photograph of him (Photo 3) showing marked external deformity. This was accompanied by such a shattering of his septum that no air could pass through either side. The triangular cartilage had been completely absorbed, probably as result of hematoma and later abscess of the septum. First, we remedied his stenosis by submucous resection, but when we came to look for inserts, we could not find a respectable sized or shaped piece of bone or cartilage to use. Meanwhile he had a very much hypertrophied right inferior turbinate, so with scissors I removed pretty much the entire turbinate, dipped it into tr. iodine, then alcohol, and then into sterile saline solution, went ahead with my dissection, and used it for insert, the result being shown by photograph (Photo 4).

In four cases I have implanted tissue from one individual into another, and in three they were perfectly successful. The fourth proved my only failure, indeed the only insert that did not take kindly to its new surroundings in my entire series. An explanation of this occurs to me in that the insert came from an Irishman and the matrix was on a Hebrew. You can't mix 'em. Another interesting case is that of a young woman who needed raising of the tip of her nose. Her fiancé needed a submucous, so we decided to take the tissues from his septum. We did this and implanted it with perfect success. Later, the young lady, who has a beautiful voice, went abroad as an entertainer with the Y. M. C. A., and found a man still more to her liking. On her return the engagement was broken, all presents were returned, and with his, he wrote a note telling her there was still one present she failed to return, viz., the piece of bone in her nose.

Patients come to us with these irregularities and deformities, many of them slight, and scarcely noticeable, but of which the individual is very conscious, and frequently rendered most unhappy thereby. However, sometimes they are marked and

affect the entire facial aspect, even the appearance of intelligence, and, in these days of competition, the earning capacity of the individual. Inasmuch as many of them can be entirely relieved, and others greatly improved by these comparatively simple measures, and as there need be no external scar, it seems to me to offer a field of valuable effort, certainly one greatly appreciated by the patient.

DISCUSSION.

DR. FREDERICK N. SPERRY (New Haven): I am very glad to have heard Dr. Hammond's paper and to have seen his pictures. He is certainly to be congratulated on his success. It would be a mistake, however, to believe that the problems are as simple as he has presented. They are very difficult and the results are not always as successful as they have been in Dr. Hammond's hands.

There are two problems: one, the restoration of function of nasal breathing, and the other one of cosmetic effect. My efforts have been mainly directed to restoring nasal breathing, and for that nothing can compare with the operation of submucous resection. While it does not meet every situation, in most cases it is the operation par excellence. The work that Dr. Hammond has shown brings to mind an important question. It has been considered necessary to unite the bone implant with the bone of the patient, and, if possible, also the periosteum with the periosteum of the patient. This would require the hollowing out of a place for the insert. I am glad to know that Dr. Hammond has done without this procedure. If the grafting is unsuccessful we have a worse condition than before the operation,—you have the defect plus the hollowing out for the implant. I have no doubt that many of these cases will remain in the tissues without being absorbed. I should like to know, however, what an X-ray picture of the bone would show two or three years from now,—whether the bone will remain in the tissues or be absorbed, after months or years. The pioneer of this work in this country was John O. Roe of Rochester, N. Y. From all over the country patients went to him for the correction of nasal deformities. There are comparatively few men doing this work now, and I presume that Hartford, with its Dr. Hammond, will become a Mecca where men will go to have their noses straightened.

DR. MARK S. BRADLEY (Hartford): We have all seen cases of nasal deformity produced by syphilis. With the exception of trauma it is perhaps the most common cause of nasal deformity. These cases of syphilitic nasal deformity may be divided into two classes; the first being where there is extreme destruction of tissue,—where there are extensive perforations in the triangular cartilage, cases of complete septal

perforation extending through the vomer, the ethmoid, and even the ethmoid cells. The second class is formed by those where the evidence of syphilitic destruction is not so prominent, where there is not such marked tissue destruction, and where we may not be so positive that it has been produced by syphilitic infection. In these cases in order that we may be safer from the possibility of sloughing away of tissue from syphilitic infection, it would seem wise to test the condition by the Wassermann reaction before operating.

There is very little to discuss in the paper presented by Dr. Hammond; his results are as plain as the nose on your face, as he so aptly expresses it, and the paper itself is one of the most valuable additions on the subject of cosmetic surgery of the nose that has been submitted in recent years.

DR. H. F. STOLL (Hartford): One point has occurred to me in explanation of the statement of Dr. Hammond's that the graft did not "take" when taken from another person. The iso-agglutinins of blood may have been incompatible. It has been found in skin grafting that blood grouping should be done, as it is in all transfusions, and it is quite likely that a bone graft would take better if compatible donors were selected.

DR. H. E. SMYTH (Bridgeport): I have not much to say on Dr. Hammond's paper, although I was much interested in hearing it. I know that the operation has been done in New York, and also that splints have been taken from the rib and tibia. Ten or twelve years ago paraffin was much used, and in many cases was very satisfactory, but has come into disrepute, and at present is not much used. Resection of the septum has come to be a recognized operation, and is required in many cases of nasal deformity, and if material can be obtained in this way, and be applied as a splint with Dr. Hammond's skill, it seems ideal.

DR. W. H. CARMALT (New Haven): I have known of cases of suits for malpractice in using paraffin having been brought and substantial damages obtained.

DR. HAMMOND: Dr. Sperry spoke of using X-ray findings to note the result of these inserts. Within a month Dr. Carter has sent out reprints stating the results of examination by the X-ray of several cases where practically all of them showed true growth. Furthermore, he has abandoned the use of a section from the rib, and is now using the sub-mucous method, as I described to-day. As to the use of paraffin, I am glad to find so many backers in considering that an unfortunate procedure. I have seen noses that were a mass of slough and where even the cheeks were involved, with horrible results. I believe the consensus of opinion to-day is that it is not a surgical procedure and should no longer be used.

Glénard's Disease.

EMANUEL A. HENKLE, M.D., New London.

There are few diseases which are more thoroughly discussed and more extensively disputed than that of visceroptosis. It seems to be a topic for constant disagreement and self-contradiction among the clinicians.

In scanning the literature on visceroptosis, I find that prior to Glénard very little attention had been given to this extremely important subject. It had been recognized by earlier writers, but to Glénard undoubtedly belongs the credit for fully describing and emphasizing the importance of this condition.

With the advent of the Roentgen ray, the entire subject of gastro-enterology has been completely revolutionized. The anatomist was compelled to change his former rigid landmarks and allow for considerable variation in the normal location and habitus of the alimentary canal. Previous methods of examination for the position of viscera by palpation and gas inflation in the recumbent position were inadequate. The stomach was supposed to be in a normal position when its lower border was on a level with the umbilicus and when the colon was on a line crossing the iliac crests. There may be great variation between the erect and the horizontal positions in the location of the stomach and the intestines—therefore, roentgenologically, the position of the viscera must be determined with the patient erect. The weight of the barium or bismuth salts does not affect the position, since it is not heavier than an ordinary meal.

The etiology of splanchnoptosis has received the maximum of controversy. The two types of this condition, which are generally recognized, are the congenital and the acquired. It is thought by some that the congenital type predominates. In 1895 Stiller advanced the original theory that enteroptosis results from a congenital predisposition. Glénard, at first, laid stress on the normal kinks of the intestines, retaining the intestinal contents which drag on the peritoneum which, in turn, eventually

yields, and thus results in ptosis. He later abandoned this idea and ascribed viseroptosis to a constitutional diathesis which he called "diathèse hépatique."

It is R. H. Smith's opinion that there is a predisposition to prolapse in childhood and that slender physique, frail health, and neurosis may contribute toward viseroptosis. He examined over one hundred children, ranging from birth to thirteen years, and states that actual prolapse of viscera rarely occurs in childhood; there are, however, muscular insufficiencies which in later life may result in ptosis. He recognizes an acquired type in women who are suffering from nervous strain, childbirth, and over-exertion. He states that in such cases the prolapse is never excessive.

Rovsing does not agree with Stiller's hypothesis and believes that viseroptosis in women is of two types—first, what he calls the virginal type, which is caused by corsets and tight bands, and which begins at puberty, and secondly, the maternal type which is caused by childbirth.

Kaufman states that the majority of cases of gastroenteroptosis find their origin in fatigue neurosis. He gives the reason for this view as follows:—

1. Many persons who have prolapsed organs have no symptoms of any kind.
2. These persons may acquire gastrointestinal symptoms when subjected to nervous strain.
3. The symptoms may be made to disappear in many instances, without paying attention to the viseroptosis.

We may argue:—

1. That persons with prolapsed organs have no symptoms unless the prolapse is complicated.
2. That the gastrointestinal symptoms may be due to the nervous strain and not to the enteroptosis.
3. That the symptoms may disappear with the abatement of the nervous condition, but the ptosis may still remain.

Farther on, under the discussion of treatment, Kaufman modifies this view by stating that in many cases the symptoms of gastropptosis cannot be overcome until some support is offered

to the viscera. He also admits that the whole subject of visceroptosis is a complicated one.

In a recent article, Dr. Hazen states that about ninety-six per cent of the cases that he operated upon were congenital. He describes an embryologic basis, which consists in defective agglutination and fusion of the peritoneum of the back with that of the large intestine, and so causing a malfusion, which may be either hyper or hypofusion. These errors in fusion of the peritoneum result in ptosis of abdominal organs which may cause angulations, constrictions, and traction strains, and which, in turn, give rise to a trend of symptoms. Hypofusion is a laxity of attachment permitting abnormalities in the position and the relation of organs. Hyperfusions are localized adhesion bands. Fibrous hypertrophy and constrictions may result from these bands.

It would be well to disregard all the extreme views on the causation of organ prolapse, since they afford unlimited ground for disagreement. Not all cases of visceroptosis can be attributed to neurasthenia or congenital predisposition.

Undoubtedly, there is sufficient evidence that any wasting condition, resulting in loss of weight and general muscular atony, will predispose to organ prolapse. Toxemia, focal infections, prolonged fevers, and wasting diseases, such as cancer, diabetes, and nephritis, may all result in the loss of muscular tone, and so cause visceroptosis.

I prefer to think, that, in the majority of cases, neurasthenia is not the cause but the sequel of ptosis. When an advanced case of neurasthenia plus visceroptosis appears to us for relief, who could unhesitatingly state which was the first to start the trouble? I also believe that it is not the malposition of organs that causes the neurosis but the autointoxication that may be incidental to it.

An hepatic flexure sequence has been described by several authors, in which, primarily, the hepatic flexure comes down from its housing underneath the liver, and frequently prolapses considerably below the crest of the ileum. This leaves a fossa which permits the liver to rotate inward and forward and so constitutes ptosis of the liver. The inward rotation of the liver



FIG. 1. Hepatic flexure below the crest of the ileum, ptosis of splenic flexure, transverse colon V-shaped and dipping into the pelvis, angulation at hepatic flexure.



FIG. 2. Hepatic flexure at crest of ileum, splenic flexure high in the hypochondriac region, pronounced V-shape of the transverse colon, the filling defect in colon not constant.



FIG. 3. Prolapse of hepatic flexure, also splenic flexure in lesser degree, stomach resting on transverse colon, visualized kinked appendix, filling defect at antrum.



FIG. 4. Marked elongation of atonic stomach, lower end almost reaching pelvic floor, cardiac end still held in normal position.

carries with it the pylorus and the stomach. The transverse colon and right kidney also take part in the downward movement.

It would be plausible likewise to consider the probability of a gastric sequence. An elongated, atonic stomach, exerting a constant pressure on the transverse colon, carries it into the pelvic fossa and drags with it the hepatic flexure from its housing, and thus causes the other organs to prolapse.

The stomach assumes an enteroptotic habitus which is of the fishhook variety. The lower end sometimes reaches the pelvic floor.

The hepatic flexure is more frequently prolapsed than the splenic flexure. In severe, long-standing cases the transverse colon, dipping down into the pelvis, assumes a V-shaped position. It may be much elongated and it may lose its saculations. Schlesinger maintains that the cardia must take part in the ptotic process.

In the limited number of gastropototic cases that I have roentgenographed, I have usually found an elongated stomach with the cardiac end in the normal position under the diaphragm, held by the gastrophrenic ligament. I consider it rather a stretching of the longitudinal fibers of the stomach, due to atony and an elongation of the organ, than a true prolapse. In aggravated cases gastroctasia may also be present. Considerable trouble may arise from Lane's kinks and hyperfusion bands. Extreme ptosis may cause interference with the blood supply and innervation of the organs involved and may result in serious disturbances.

I shall not speak of subjective symptoms of uncomplicated visceroptosis. A misplaced organ will perform its function and not give rise to any symptoms unless there is an interference with its innervation, blood supply and secretions, or unless it is distorted by adhesion bands. I believe that there are many people who go through life enjoying good health, ignorant of misplaced organs. One of my patients, S. K., age 60, has complete transposition of the thoracic and abdominal organs. The heart apex is to the right, the stomach on the right, with the pylorus towards the left, the liver on the left, the cecum on the left, and the spleen on the right. This patient was enjoying good health until a few

years ago, when he developed diabetes which resulted in debility and general muscular weakness, and he now shows visceroptosis.

Roentgenologically, gastropotosis is the rule and not the exception. Of far greater importance than the prolapse itself are the habitus and other conditions accompanying the prolapse.

Stiller characterizes the visceroptotic as one with a slight skeleton, a long, narrow, sunken thorax, movable tenth rib (costal stigma), steeply falling ribs, wide intercostal spaces, an acute epigastric angle, a thin, weak musculature, a poor panniculus, and pallor of the skin. In the absence of symptoms of uncomplicated visceroptosis, I find that the authorities dwell on the symptoms of its complications.

Thus, disturbances in the motor functions of the stomach may give rise to digestive disturbances, such as fermentation, anorexia, hyper or hyposecretion, and epigastric distress. Gastroctasia from the atonic condition results in delayed evacuation of its contents and adds to the above symptoms. Sharp angulation in the intestines and Lane's kinks and bands may produce intestinal stasis which in turn may give rise to autointoxication resulting in a group of symptoms incidental to the autointoxication. These patients absorb toxic substances which have a degenerating effect upon the nerve tissue, especially the sympathetic ganglions, terminating in neurasthenia.

Spasm in any portion of the alimentary canal will cause severe pain in the abdomen. Kinks may also cause reversed peristalsis with nausea and vomiting. Constipation is the rule except in thyroid cases.

There has been much controversy as to whether the surgeon or the internist should treat the visceroptotic patients. Several authors, including Rehfuess, think that the sphere of visceroptosis is a purely medical one. I do not think that either one or the other should claim all the cases. It would be just as unwise for the internist to undertake to treat medically a case of visceroptosis complicated with intestinal stasis due to kinks and adhesions, as it would be for the surgeon to operate on a case of general visceroptosis accompanied by muscular atony and neurasthenia due to some chronic disease. Among the visceroptotics there are undoubtedly either purely medical cases or



FIG. 5. Transposition of organs. Heart in the right thorax with apex directed toward the right, markedly elongated stomach on the right side of the abdomen, pylorus directed toward the left. Ascending colon, hepatic flexure and cecum on the left side, marked ptosis of the entire colon.



FIG. 6. Transposition of organs. Heart in the right thorax with apex directed toward the right, markedly elongated stomach on the right side of the abdomen, pylorus directed toward the left. Ascending colon, hepatic flexure and cecum on the left side, marked ptosis of the entire colon.



FIG. 7. Transposition of organs. Heart in the right thorax with apex directed toward the right, markedly elongated stomach on the right side of the abdomen, pylorus directed toward the left. Ascending colon, hepatic flexure and cecum on the left side, marked ptosis of the entire colon.



FIG. 8. A markedly elongated hypotonic stomach still retaining its phrenic attachment.

purely surgical cases and mixed cases. Considering the gravity of the symptoms that may arise from splanchnoptosis, each case should be carefully studied and proper treatment administered.

Dr. Rehfuß suggests the following principles for the treatment of visceroptosis:

1. Restore nervous tone.
2. Increase weight.
3. Eliminate infection.
4. Tone up the system.

Glénard states that the essentials for successful treatment of visceroptosis are: an abdominal bandage, laxatives, alkalies and a meat diet.

The treatment of splanchnoptosis may be divided under the following headings:

1. *Prophylactic*: Frail children with congenital tendencies toward prolapse should have vigilant care. Diseased tonsils and dental defects should receive proper attention.

2. *Psychical*: Neurasthenia and other nervous disturbances may be benefited by suggestion. By renewed confidence in ultimate recovery patients may regain appetite and restored muscular tone.

3. *Dietetic*: Good nutritious food must be selected according to the digestive power of the stomach.

4. *Mechanical*: A great number of cases are benefited by a variety of abdominal supports. Rose recommends a piece of moleskin adhesive plaster of zinc oxide about one yard long and eight inches wide. From the middle of the lower edge the plaster is cut obliquely upward on each side to points three inches from the top of both ends, thus forming almost a triangle. The point is applied over the symphysis pubis, the rest is snugly applied to the body, and the ends overlapped on the back. The other two pieces are used to reinforce the lower edge on each side. There are many modifications of the Rose bandage. The chief objection to it is the irritation of the skin and the necessity of renewing the dressing frequently. A great variety of bandages and supporters have been described. Any support is useful if it maintains an upward pressure on the viscera.

5. *Postural*: Although the postural treatment of viscerop-

ptosis is only rarely mentioned, I consider it of great importance. It has been given greater prominence in gynecology than in visceroptosis. We are dealing with a relaxed atonic condition of the muscles of the body. Because of a continuous strain on the longitudinal fibers of the muscles and ligaments of an atonic stomach particularly when filled with food they are constantly undergoing strain fatigue which augments the ptosis. It is probable that the rest cure of Weir Mitchell for neurasthenia due to organ prolapse, accomplishes its end more by allowing the muscles and ligaments of the viscera as well as the pelvic organs to regain their tone, than by the psychical effect it has on the nervous condition. I have observed considerable improvement from postural treatment, by directing patients to remain in bed after meals with hips raised.

One of my patients, female, age 56, who suffers from attacks of anorexia, abdominal distress, complete nervous exhaustion, is frequently obliged to go to bed. After remaining in bed from eight to ten weeks she gradually begins to regain her appetite and strength with a general improvement in her physical and nervous condition. On roentgen examination I found the stomach elongated, inclined to the right, ptosis of the pylorus and a six-hour retention of more than half of the meal.

6. *Electricity*, massage and hydrotherapy have also been suggested in the treatment of visceroptosis.

7. *Medicinal*: Drugs are of little benefit with the exception of those which tend to improve muscular and nervous tone—such as strychnine, iron and phosphorus. I have noticed some benefit from occasional doses of pituitrin.

8. *Surgical operations*: These are as varied as the etiology and the symptoms. All the operations aim to raise the stomach. This has been tried by fixing the anterior surface of the stomach to the abdominal wall with a single suture. Rovsing applied three rows of sutures. It seems that the operation of fastening the stomach to the abdominal wall may seriously interfere with its function. A fixed stomach may be worse than a fallen one. The greater omentum has been sutured to the anterior abdominal wall, thus raising the stomach and the colon.



FIG. 9. Atonic stomach—retention of half the six-hour meal.

Elevation of the stomach by plication of the gastrohepatic ligament has also been tried. Dr. Hazen has operated successfully on a large number of cases. His operation consists in fixing the colon in its normal position by obliterating the mesocolon and by restoring and attaching the other organs to their normal position. His technic is fully described in the *Journal of the American Medical Association*.

DISCUSSION.

DR. LOUIS M. GOMPERTZ (New Haven). I want to compliment Dr. Henkle on his interesting and instructive paper. While I fully agree with Dr. Henkle that the X-ray is the very best method at our disposal for making a diagnosis of visceroptosis, I do not believe, from my personal experience, that the weight of the barium meal has no effect on the position of the viscera.

Many times at operation when we expected to find a marked ptosis as pictured by the X-ray, this condition did not exist in so pronounced a degree. Therefore, I believe the bismuth meal does increase the sagging or dropping of the hollow viscera.

In the acquired form of visceroptosis—frequent births, wasting diseases, tight lacing of corsets in the female and the wearing of the trouser belt in the male, should be considered as causative agents. The relentless squeezing of the abdominal viscera should receive serious consideration in the etiology of this condition. Visceroptosis may be present as a condition per se or in combination with some organic disease. I believe that in all cases a microscopical examination of the fasting stomach contents should be made as well as a chemical examination of the stomach contents after a test breakfast, as the results have an important bearing on the therapy of this condition.

I believe that the prophylactic treatment should be included with the dietetic, medicinal and mechanical. The prophylactic treatment should be instituted as soon as a slight amount of displacement is discovered. Proper dress is recommended, in the removal of tight bands, belts or strings about the waist. This should be insisted upon. Massage and exercise should be systematically practiced and a proper diet arranged for the patients.

As Dr. Henkle has so well said, fitting of a proper abdominal support is necessary. It has been my experience that the Rose adhesive belt, although it has objections, gives the best results in the emaciated, enteroptotic individual.

While it is true that the surgical treatment of visceroptosis has received attention and has some adherents, I do not believe it has any permanent value, as I consider the treatment of visceroptosis to be strictly within the domain of the medical practitioner.

DR. HARRY M. LEE (New London): Some ten years ago my attention was called to displacements of viscera, having for a number of years previously encountered frequently at operations displacements of the hollow viscera, especially the stomach and colon, and so far as the history of the case was concerned there was no evidence of trouble from these displacements. In a few years a sufficient number of cases had been collected to enable some working hypothesis to be established. At this time, one fact was impressed upon us, namely, that so few symptoms and oftentimes,—yes, in the majority of cases,—no symptoms whatever were expressed by the patient. Again, it was evident that no relation between the displacements and the intensity of symptoms seemed to exist. In fact, cases with slight displacements seemed to give a syndrome out of all proportion to the anatomical peculiarity.

These two converse types of cases led to a careful study of these conditions and we then brought to bear upon them the clinical laboratory aids as well as careful X-ray work. The death of my colleague, who was doing the laboratory work some three years ago, and my entrance into the service put a stop to our investigations and since then the subject has not been taken up except to gather additional X-ray plates in these cases. I desire to say now that I feel I am speaking inopportunistically, for a line of investigation along which we were endeavoring to find light was rudely interrupted. From here on I shall speak tentatively, with the hope that further work will allow more definiteness in the far distant future, perhaps.

The author of the paper under discussion has truly stated that the subject is a much-discussed one, and also quite lucidly directed our attention to the varying uncertainty in regard to causes. In my opinion there has been too much arbitrary handling of the causes—hypotheses, with logical reasoning, made to fit the conditions,—but, proof is wanting. We admit the condition, but we do not admit the cause, and frankly say we do not know. Still more we question whether any one can lay down rigid laws as to how far a hollow viscera,—all of which are mobile organs,—may or may not be displaced and not conflict with health. It is a fact that many cases of marked displacement go happily through life with no evidence of trouble or any inconvenience. The converse is also true. This led us to group our cases and to look for symptoms expressed in two ways: directly, due to mechanical and functional disturbances because of displacement; and indirectly, due to a neurosis which (1) may not have been related to visceral displacement at all; or (2) may have been so, causing neurosis due to stimuli to and through the sympathetic

system; (3) or, lastly neurosis due to some as yet unexplained interference with ductless glands, notably the thyroid. Many of these cases in the young adult, more frequently in the female, simulate the thyroid hypo-secretion syndrome and the syndrome of the asthenic individual,—Endocrine showers may play a part.

When our work on the investigation of these cases along the line of delayed intestinal emptying and the intoxications due to such was interrupted, we had some reason to believe that our neuroses,—the crises and abeyance of symptoms, with irregular recurrences,—were due directly to an intoxication or showers of toxic materials, such toxæmia expressing itself in various syndromes through numerous channels.

This Dr. Henkle has stated as most probable. We believe this explains some of the syndromes expressed.

Again, there was reason to believe, as we found some cases gave no evidence of toxæmias so far as our analyses allowed us to judge,—and at the same time these cases were markedly neurotic,—that some stimulus to the sympathetics due to the displacements was the cause of the syndrome. To connect up in a logical manner such facts was a hope not yet accomplished.

If for a moment we give our attention to the reverse of Glénard's disease wherein due to pregnancy, large cysts arising from the pelvic female organs and to congenital defects in the diaphragm,—all of which may displace upward the hollow viscera to sometimes extreme degree, and find that no particular causes of disturbance arise therefrom, we are forced at least to note interest in the fact.

Looking then to treatment, the first thing I should say is that surgical gymnastics has found a likely field but has given no results of note, especially when we take into consideration the neurosis type whose psychological benefit through operation is apt to be greater than any other factor. To resect colons, plicate stomachs, shorten mesenteries, produce adhesions between the hollow viscera and parietes is too formidable a process in view of the uncertainty of the relations between the various syndromes and the anatomical peculiarities to be considered. Support properly applied is definitely indicated; careful treatment, as physio-therapy; corrections for proper elimination is demanded.

I have wondered if the sage remark of the Caliph Allah could not also apply to this subject: "That men are more like the times they live in than like their fathers."

DR. L. H. LEVY (New Haven): In my work as a gastroenterologist, I am able to see during a year several hundred cases of the various types of visceroptosis. Because of this I was glad to listen to Dr. Henkle's paper for he has treated the subject in an interesting and illuminating manner. Several factors must be considered in the discussion of viscerop-

toxis. First, not enough emphasis has been placed on that form associated with and due to peritonitic adhesions. Very often we see in fluoroscopic and X-ray studies, intestines drawn down in such a manner that we can properly diagnose the case as one in which there has at some time been present a pelvic peritonitis. Inasmuch as I fluoroscope most of the patients referred to me I have been able to make this diagnosis on several occasions.

In the etiology of this condition we cannot improve a great deal on Osler's classification. He says that the two main causes are the loosening or weakening of the abdominal muscles and also neurasthenia. Whether it results from the one or the other has always been a mooted question. However, the majority of these patients are of a highly neurasthenic type and by proper treatment of their symptoms and with patience on our part we can do more for them than by any operative means. Hazen calls a great many of these cases malfusion and due to congenital causes. These are surgical in character. He has had an unusual number of these cases.

The type of the colon depends on the type of the individual. We ought to consider visceroptosis normal if no symptoms are present. Roentgenologists classify individuals into four types, depending on the shape and position of the stomach. In the short stout person the stomach, and with it the intestines, are situated high up in the abdomen. In the tall thin person these organs hang low and for them a stomach as low as three inches below the crests of the ilia is not abnormal. This is an important classification, for though there is an apparent visceroptosis in the one type, symptoms are lacking and hence it would not be proper to classify the state of the organs as visceroptotic.

The question of finding visceroptosis on X-ray and not on the operating table must be explained in this way. The patient is studied fluoroscopically in the upright position, which is the only correct way. The operation is performed in the dorsal position and in this position everything has dropped back masking the visceroptosis. I hardly think that the weight of the barium in the barium meal would produce a visceroptosis. The weight given a patient is usually between three and four ounces. This is much less than the weight of the usual colonic fecal contents. Inasmuch as the intestines are cleaned out by a purgative before the X-ray studies are commenced the small weight of the barium cannot make any material difference in the production of a visceroptosis that does not otherwise exist.

A most important factor in the treatment is a well-fitting bandage or abdominal support. Not enough attention has been given to this. We advise the patient to get a belt and let it go at that. We must consider the patient's condition and have the belt conform to his particular type. A good belt properly fitted will produce excellent results. The case

must also be treated symptomatically. In surgical cases good results are obtained in about twenty per cent of the cases; whereas eighty or ninety per cent can be better treated by proper medical treatment, that is by support, proper dietetic régime, etc.

Another thing that has been over-used in these cases is large enemata or colonic irrigations. Many cases have been aggravated by such treatment. The introduction of large amounts of fluid into an already atonic or dilated gut will only tend to increase the atony or dilatation. I give small amounts of fluid—four ounces—consisting of from one to two teaspoonfuls of a mixture of turpentine, glycerine, olive oil and soft soap in water. This is retained in the rectum for about five minutes. I have had excellent results in obstinate cases of constipation. At the same time there is avoided any danger to the already damaged colon.

DR. H. F. STOLL (Hartford): The man who sees a good many children can materially help in the prevention of the type of which Dr. Gompertz spoke. We know the type of children with very poor musculature, that gets worse as the child grows older. If the men looking after such children will give them exercises to develop their abdominal and back muscles, they will prove a real factor in holding up the viscera when they grow older. It is interesting to remember that Samuel S. Fitch, of this state, who achieved considerable notoriety in treating tuberculosis one hundred years ago, devised an excellent abdominal belt with anterior and posterior pads. The front pads, he said, should not press backward but upward and backward, thus giving a lift to the abdomen.

DR. PAUL SWETT (Hartford): I want to discuss one detail of the support treatment. Any support which simply makes pressure in the attempt to hold up the abdomen from underneath and hangs on the middle of the back defeats its own purpose, for the more it holds up from the front, the more it forces the lumbar spine forward and thus it causes the ptosis. Any support that attempts correction of the visceroptosis must be sure not to aggravate the slumping posture but it must put the patient in the corrected posture.

DR. HENKLE: I wish to emphasize that the neurosis in visceroptosis is not due to the position of the organs but to some form of autointoxication. I also wish to emphasize the importance of postural treatment. If the patient is advised to remain in bed, with raised hips, about two hours after each meal, the stomach contents are much reduced in that length of time, and when the patient is again in the erect position the downward drag on the stomach by the weight of a full meal is greatly lessened.

Abdominal Symptoms in Influenza, Simulating an Acute Surgical Lesion.

THOMAS HUBBARD RUSSELL, M.D., New Haven.

My interest in this subject was aroused by the fact that I have personally seen five cases of influenza presenting pronounced abdominal symptoms, sufficient in every case to have caused the possibility of an acute surgical lesion in the abdomen to be entertained. The first diagnosed her own condition as appendicitis, on account of the severity and predominance of the abdominal pain, and came to me for an operation. Three of the cases I saw in consultation with Drs. Standish and Seabury, of New Haven, and Dr. Perrins, a naval surgeon stationed in New Haven during the war. The fifth case I saw in the New Haven Hospital by courtesy of Drs. Blumer and Tileston, on whose service it occurred. All of these cases were in adults, and all recovered uneventfully without an operation. I hope to report them in greater detail at some future time: the time allowed me for this paper does not permit of it at present.

The subject I believe to be of considerable importance at the present time on account of the seriousness of the recent epidemic, and the probability of our seeing sporadic cases for some time to come, and also on account of the frequency of the abdominal symptoms, and the great difficulty so often encountered in arriving at a correct estimate of their true significance, as well as the danger of an unnecessary operation during the course of the influenza. It is now possible to formulate, on the basis of the available literature, an accurate estimate of their meaning.

We must depend principally on the literature embodied in the periodicals printed during the past two years, for two reasons. In the first place, the character of the cases encountered in the epidemic of 1888-1889 varied somewhat from those found in the recent ones, in the former epidemic, people of all ages having been almost equally affected, and a relatively large number hav-

ing had the gastro-intestinal form, characterized by nausea, vomiting, diarrhoea, and hemorrhages into the intestinal tract, which have been very rare in the recent epidemic. Also the acute surgical abdomen, and particularly the pathology of appendicitis were not nearly as well known at that time as they are now. One does, however, find references to "typhlitis" in the literature of that time. Articles on influenza in the standard text books of to-day give scant or no attention whatever to the symptoms and signs frequently occurring in influenza, which would ordinarily suggest an acute surgical abdomen.

The abdominal lesion most often simulated is appendicitis, and a differential diagnosis here is made more difficult by the fact that the two conditions, at least during the recent epidemic, have occurred most frequently at the same time of life, young adults having been chiefly affected. One must, of course, always consider the possibility of a coexistence of the two conditions. It would be strange, indeed, if they did not occasionally coexist.

Let us consider for a moment what lesions are known to occur in the abdomen secondarily to influenza. One of the most frequent is peritonitis, which may be either local or general. When local it occurs most frequently in the upper abdomen, adjacent to the diaphragm. In a large proportion of these cases it appears to be a direct extension from an adjacent empyema. When general it usually is of a fibrinous character. When purulent it is as a rule part of a general pyaemic infection. It is not due to an extension from an infection of the appendix or gall bladder. In some cases a localized collection of sero-sanguinous fluid is found among the coils of intestine. The causative organism may be the streptococcus haemolyticus, pneumococcus or staphylococcus. Where peritonitis is a complication, it almost always comes on during convalescence from pneumonia.

Rupture of the rectus abdominis muscle has frequently occurred during the recent epidemic, and still more frequently during the epidemic of 1888-1889. It occurs in muscles showing a Zenker's degeneration, probably due to a spasmodic contraction of the weakened muscle during coughing. It may result in a hemorrhage into the sheath of the muscle, which not infrequently

becomes secondarily infected, resulting in a deep abscess. The rupture is rarely complete, and usually occurs mid-way between the symphysis pubis and umbilicus. One writer reports eight cases, another has seen twenty. These cases have frequently been operated upon for a supposed appendicitis.

Multiple abscesses of the kidney, and perinephritic abscesses occur infrequently.

A thrombo-phlebitis of the large abdominal vessels has occasionally been reported. Also a general congestion of the intestines with submucous hemorrhages occasionally occurs. One case of rupture of the colon has been reported.

The above lesions are about the only ones at all likely to appear in the abdomen. In the great majority of cases they have come on during convalescence, or as a terminal process, and an operation would have been useless, or merely have hastened the end.

There are a few who believe that there is a close relationship between appendicitis and influenza, but their statistics are not convincing. The general opinion seems to be, on the contrary, that appendicitis is a very rare complication, although a train of symptoms which would ordinarily substantiate such a diagnosis is exceedingly common.

The best statistics available are from the military camps and base hospitals, as here tremendous numbers of men suffering from influenza were under observation and excellent control. Let me quote freely from a few of those which describe the frequency and the puzzling nature of the abdominal symptoms.

Camp Dix. During the twenty-two days of the epidemic there were 6,000 cases of influenza in the hospital, and 800 deaths due to the epidemic. Synott and Clark report: "In the abdomen, meteorism occurred in some cases; in certain lethal cases it was excessive. Abdominal pain and tenderness were present, possibly not entirely due to pleurisy, but in the light of necropsy findings to infection and hemorrhages in the rectus muscles."

Camp Logan. A daily average of 24,000 men were in camp and 4,126 were admitted to the hospital with a diagnosis of influenza in addition to 567 with a diagnosis of pneumonia. The report states "An interesting feature of the respiratory epidemic

was the great number of cases admitted to the hospital with a diagnosis of acute appendicitis, in which after a few hours' observation we changed the diagnosis to either influenza or pneumonia. About fifty cases were received whose previous diagnosis was wrongly given as appendicitis."

U. S. Naval Hospitals in Philadelphia. Deland reports, on the basis of 3,000 cases of influenza: "Reflex pleuritic pains have been erroneously diagnosed as cholecystitis or appendicitis. . . . Usually interlobar and diaphragmatic sero-plastic and purulent pleurisy are not diagnosed, but the latter may be suspected when friction sounds are heard over the borders of the lung or when referred pain occurs in the upper abdominal, gall-bladder or appendix regions. . . . Autopsies showed no pronounced gastro-intestinal pathological change. . . . Referred pleuritic pain is often mistaken for cholecystitis or appendicitis."

Great Lakes Naval Training Station. McNally reports that he saw a considerable number of cases which taxed his diagnostic ability and that of his colleagues on the surgical service. He states "The onset of acute chest conditions gave us concern in many instances. They were confused most often with acute appendicitis although we were occasionally confronted with symptoms resembling acute gall-bladder disease. I have come to have a wholesome respect for the difficulties encountered in making an early diagnosis in these cases." Autopsy findings showed in some cases a moderate amount of turbid liquid in the peritoneal cavity, but the appendix and gall-bladder showed no changes which could be connected with the recent condition. "To have operated upon these cases would have been a fatal mistake."

Royal Naval Hospital, Plymouth. Smith reports: "In the earlier days cases were constantly being sent in to the surgical service with the diagnosis of perforated gastric or duodenal ulcer, less frequently as an acute appendicitis. . . . The true diagnosis is often difficult."

Camp Dodge. Manson reports that at one time there was a total of 8,000 cases in the hospital. The total number diagnosed

as influenza from September 16 to December 15, 1918, were 10,041. He states: "About thirty cases of pneumonia developed symptoms strongly suggestive of surgical lesions of the abdomen, which were seen in consultation with the medical service; so closely did some of these cases with chest pathology simulate appendicitis that three of the cases were transferred to the surgical wards with the diagnosis of appendicitis, but the true condition was discovered in time, and none of them were operated. There were two cases of appendicitis which were operated, and found to be gangrenous appendicitis, each giving a history of previous attacks of appendicitis."

University of Iowa R. O. T. C. Rowan states that among 1,030 cases of influenza, appendicitis was not a common complication, there having been two cases. In quite a number of cases there was pain, tenderness and rigidity, localized in the right lower abdominal quadrant. He states: "This was marked enough in some cases to have led to the diagnosis of acute appendicitis and to have indicated operation in ordinary times." He felt that it was extremely important to avoid unnecessary operations in these influenza cases.

Abrahams, Hallows and French report that in several thousand cases of influenza occurring in the British army, about 400 of which came to autopsy, "Abdominal pain . . . has existed of sufficiently severe character to lead to a provisional diagnosis of appendicitis, and even to some solicitude as to a differentiation from an acute abdominal condition urgently needing operation." Under post mortem findings, they state: "The vermiform appendix has not shown any noticeable change. We mention this because there has been a tendency elsewhere, we have been told, for certain of these influenzo-pneumonic cases to develop acute appendicitis."

Brooks and Gillette state that out of about 29,000 deaths in the American Expeditionary Force due to influenza only three were recorded as due to other conditions than pneumonia.

Dr. Lewis Connor states that on the strength of a study of reports to the Surgeon General from seventy-two base hospitals scattered throughout the country: "Abdominal pain was of rare

occurrence. Abdominal tenderness was sometimes encountered, but seemed usually to be either a part of a general hyperesthesia or related to inflammation in the chest which involved the diaphragmatic pleura. Very rarely it was caused by a local or general peritonitis."

Camp Zachary Taylor. Meyer states: "In many instances patients were sent to the surgical department, diagnosed as appendicitis because of the history of abdominal pain and vomiting."

Camp Custer. Beals and others state: "A number of patients were either admitted to the surgical wards or seen in consultation in the medical wards for pain in the right lower quadrant. Pain of a dull, aching character, referred to the right lower quadrant, was the most prominent feature. . . . These abdominal signs and symptoms might ordinarily be diagnosed as appendicitis. However, it was repeatedly observed that the local abdominal signs disappeared in a short time; more rarely they persisted and increased in severity so that operation was deemed imperative. This group occurred in influenza patients, nearly all of whom later showed demonstrable signs of broncho-pneumonia." Four and two-tenths per cent of the cases coming to autopsy showed peritonitis, usually localized in the upper abdomen, and never secondary to any demonstrable abdominal lesion. Abdominal rigidity and tenderness of the upper abdomen were usually a reflex from pneumonia.

Camp Lewis. Based on their experience with 7,088 cases of influenza and 1,126 cases of broncho-pneumonia, Kerr and others state: "While abdominal symptoms have been rather infrequent during the course of the disease, they are, when present, the source of great annoyance. In two instances these symptoms led to operative procedures. At operation one patient was found to have a normal appendix and pneumonia developed later. The other presented an acute gangrenous appendicitis, although the leucocyte count prior to operation was 6,000. Pneumonia was not found in either case prior to operation. In another instance abdominal pain, leucocytosis and a slight jaundice suggested acute cholecystitis. Pneumonia with a resulting empyema on

the right side was found and apparently produced the abdominal picture."

Henderson and Billington, basing their statements on an experience with about 5,000 cases of influenza in a large base hospital, say: "In some cases the abdominal signs and symptoms are such as to strongly suggest an acute appendicitis, and quite a number of cases have been operated upon on this diagnosis. On the other hand, during the latter part of the epidemic, numbers of cases were sent into the hospital with a provisional diagnosis of influenza of the abdominal type, in which the condition was actually one of acute appendicitis. In one week we had three such cases in which operation was necessary. One does not regard influenza in an ordinary sense as a cause of appendicitis, but it can be readily understood that, with such a catarrhal condition of the bowel as is often met with in abdominal influenza, an acute appendix inflammation may be readily set up."

U. S. Naval Hospital, Philadelphia. Billings states: "In the majority of instances there was some abdominal distension and pain on palpation, particularly in the right iliac fossa. This latter symptom cleared up rapidly, however, but during its presence markedly simulated appendicitis."

Camp Beauregard. Frick reports that many cases "had vomiting, some became tender over the abdomen, imitating an intra-abdominal condition."

Mann, from his experience at a base hospital, states that the abdominal symptoms were frequent, might occur before other symptoms, and frequently led to a diagnosis of appendicitis; that true appendicitis in influenza was rare, but did occasionally occur. "Acute appendicitis was so rare that we had only one case. . . . The cases simulating appendicitis gave us a great deal of anxiety."

That the abdominal symptoms are not confined to military practice, and that cases are not infrequently operated upon for a supposed abdominal lesion in civilian life is illustrated by the following abstracts and quotations.

Bloomfield and Harrod state from their experience at the Johns Hopkins Hospital: "In a few instances, acute abdominal pain, vomiting, or diarrhoea, ushered in the disease."

William R. Williams states: "Another group of cases showed chiefly abdominal symptoms. . . . One such case was admitted to the New York Hospital with fever and a good history of acute appendicitis. The abdomen was rigid and sensitive in the region of the appendix. Because she had a little cough and influenza was so prevalent at the time, operation was delayed for a little time. Later she developed a double broncho-pneumonia, and recovered without surgical treatment. There were other cases that had both an operation and pneumonia to get over." Another case was operated upon for acute cholecystitis. The gall-bladder was normal and the patient later developed a pneumonia.

Dubs operated upon two cases of supposed ruptured appendix during influenza. In both cases no surgical condition was found, and no real lesion of the appendix, but a slight congestion of this region. In other cases he states that individuals have lain in the hospital for twenty-four hours with a diagnosis of abdominal grippe, and were then operated upon and a ruptured appendix located.

Manges states: "Another symptom referable to the abdomen is pain. At times this may be so severe that acute abdominal conditions may be suspected. In the case of a child recently admitted to the Mt. Sinai Hospital the abdominal pain was so severe and cramp-like, and the rigidity of the abdomen was so great, that in the presence of fever, and the absence of other symptoms and signs, a diagnosis of acute appendicitis was made. As nothing was found at the operation, the true diagnosis of influenza became apparent. I have seen a number of patients in my own service, in whom the main symptom was intense abdominal pain, which was especially referred to the epigastrium."

Delbet has described two cases occurring in his private practice in which there were all the symptoms ordinarily found in an appendicitis with abscess formation, including a palpable mass. The first was operated upon and died, the appendix having been found normal, but there having been a collection of sero-sanguinous fluid between the loops of intestines. In the second case, profiting by his experience in the first, he did not operate, but used medical treatment, especially anti-strepto-

coccic serum, with rapid improvement and restoration to health. Both of these cases developed the abdominal symptoms during convalescence from influenza. He is firmly convinced that these cases should be treated medically, and that it is poor judgment to operate. He makes the suggestion that the streptococci are carried through the intestinal wall by the lymphatics of Peyer's patches. He states that one must be on the lookout for these cases during convalescence from the grippe.

Reissman states: "Pain and tenderness in the right iliac fossa suggesting appendicitis were noted in several instances, but in my personal experience none of these cases were appendicitis; virtually all were examples of pain referred from the chest."

Villard has reported four cases of influenza closely simulating appendicitis, two of which were referred for an operation. All recovered within a few days without operation. He states that the most important part of the treatment is to abstain from operation, which is very dangerous, and treat the case with an ice cap and enemas.

From a thorough examination of the literature, at least since the recent epidemic, and from my own limited experience there is, I believe, sufficient evidence to warrant the statement that the complication of surgical appendicitis or cholecystitis or any other surgical lesion within the abdomen requiring operation, is very infrequent, but that abdominal pain and tenderness are extremely frequent, and are in the majority of cases either reflex, when present in the upper abdomen being due to irritation in the course of the 9th and 10th intercostal nerves, and when present in the lower abdomen to irritation of the 11th and 12th intercostals; in other cases due to a more or less general congestion of the intestines. Less frequently there is a collection of sero-sanguinous fluid in the abdomen, which condition is not benefited by operation, but rather harmed. This fluid will be absorbed in time if the patient survives. Occasionally there is a purulent local or general peritonitis, most often present in the upper abdomen, which is generally a terminal picture of a general pyaemia, or the extension through the diaphragm of an empyema. One must always bear in mind the frequency of a

hemorrhage or abscess within the rectus muscle, which has often been mistaken for a ruptured appendix. In these latter cases simple evacuation under local anaesthesia is sufficient to effect a rapid cure.

One should be especially cautious in making a diagnosis of acute appendicitis or gall-bladder disease during or immediately following influenza. During the course of an epidemic, it should always be borne in mind that there is a possibility of the abdominal symptoms being the first to appear. If the patient has other symptoms of, or is convalescing from influenza or influenzal pneumonia, one should be extremely conservative in recommending an operation for appendicitis or gall-bladder disease. It is certain that a large number of unnecessary operations were performed during the recent epidemic.

The following points should be remembered in making a diagnosis of appendicitis in these cases:

In uncomplicated influenza, there is almost always a leucopenia. In surgical appendicitis complicating influenza there is usually a considerable leucocytosis. A leucocytosis of over 20,000 in the first eight hours or so of an appendicitis is rare, and would be strongly suggestive of a pneumonia. It is possible to have an appendicitis without any increase in the leucocytes.

In chest conditions, the pain is most often referred to the upper abdomen, and in most cases is rather more diffuse than in appendicitis or cholecystitis. In chest conditions, also, the facial expression does not indicate that the patient is suffering as acutely as would be the case if a real surgical condition were present in the abdomen, but is resigned or lethargic. The rigidity of the recti is more apt to be equal, where the condition is due to a chest lesion, and light, superficial palpation is apt to cause the patient almost as much pain as deep palpation, which is not usually true where a real surgical condition is present within the abdomen.

A movement of the alae nasae with respiration is very suggestive of a chest lesion, usually being absent in surgical lesions of the abdomen, unless extremely advanced. Cyanosis and rapid breathing are very suggestive of a chest lesion. Toxic jaundice

and vomiting occur so frequently in influenzal conditions, that their presence should not be construed as indicating a surgical lesion.

In concluding, I want to emphasize the following points:—

1. Influenza is a protean disease.
2. Abdominal symptoms which would ordinarily indicate the need of an urgent surgical operation are commonly present during influenza, and their frequency is not sufficiently brought out in the textbooks.
3. Conditions requiring an abdominal operation during influenza or its convalescence are exceedingly rare.
4. While in some cases, a differential diagnosis is extremely difficult, the safest procedure in doubtful cases is to adopt an expectant treatment.
5. In case an exploratory operation is decided upon, a local anaesthetic is advisable.
6. A surgical abdominal lesion and influenza may occasionally coexist.
7. Many unnecessary and harmful operations have been performed during the course of an influenza, due to the lack of appreciation of the frequency with which abdominal symptoms occur in influenza.
8. The great majority of cases showing abdominal symptoms, have no surgical basis, but are either reflex, or due to some condition which would not be benefited, but rather harmed, by a laparotomy.
9. The chest should always be carefully examined before operating for a supposed acute surgical lesion of the abdomen.

DISCUSSION.

PROF. M. C. WINTERNITZ (New Haven): Dr. Russell has so admirably presented his subject that there remains little for me to say. He has pointed out the frequency of abdominal symptoms associated with the respiratory lesions of influenza, as well as the rarity of lesions of the abdomen requiring surgical intervention as a manifestation of influenza or as a coincident disease. His observations are amply confirmed in

the literature on the subject, and our own findings from ninety-five fatal cases of this disease are entirely in accord with the universal experience.

It has long been recognized that even lobar pneumonia may be initiated by violent abdominal pain accompanied by rigidity of the abdominal muscles. Indeed, laparotomy has been performed for supposed appendicitis and even acute pancreatitis, when the peritoneal cavity proved to be entirely normal and when the pneumonia only manifested itself subsequently. Chatard found abdominal pain fifty-one times in 658 pneumonia patients (7.7%). Griffith had reported numerous instances in children, and Norris has seen a case of pneumonia associated with severe localized pain over the upper portion of the right rectus abdominalis muscle in which an operation, performed in the belief that the trouble was intraperitoneal, disclosed only a hematoma in the muscle itself. However, even in lobar pneumonia, it must be borne in mind that actual pathologic abdominal conditions requiring surgical intervention may exist, such as peritonitis, intestinal hemorrhage, etc.

The question may be raised whether some complications, for example, hemorrhage into the rectus muscle or intestine, rare in pneumonia of the lobar variety, indicate a possible influenzal etiology. The pathology of the latter disease in contrast to lobar pneumonia, would lead to the expectation of much more frequent extrathoracic hemorrhagic complications.

Influenza is a systemic infection of unknown etiology. The early lesions in the respiratory tract have their counterpart in many other organs of the body. Perhaps the most frequent location is the rectus muscle, but the intestinal wall, the adrenal gland, testes, heart muscle, the nervous system, the blood vessels including arteries and veins, even the urinary bladder and the pregnant uterus, may be involved. Hemorrhage into the tissues characterizes the process; extravasated blood overshadows other exudative elements and even the destruction of the tissue. As a rule, these foci heal without undergoing suppuration, and their importance will depend largely upon their location. As has been indicated by Dr. Russell, rupture of the intestine may occur. In our series, although extensive intestinal lesions were found, in no instance was this sufficiently marked to allow rupture. On the other hand, a similar lesion in the wall of the urinary bladder led to rupture of this viscus and a general peritonitis. A more frequent result of the hemorrhage in the intestinal wall is a slough of the mucous membrane and a superimposed inflammatory process, often of the necrotizing variety. In the blood vessels, both arteries and veins, a lesion of the wall may result in thrombosis of the vessel and the frequency of fatal pulmonary emboli in influenza attests the importance of this complication. As has been said, these focal hemorrhagic lesions in the various tissues of the body rarely suppurate, but it is well known that they may be converted into

abscesses or more diffuse phlegmonous inflammatory processes. This, in all probability, is associated with the invasion of pyogenic organisms, which, as is well known, are found in abundance in the respiratory lesions of influenza. Even then, however, a general myeloblastic reaction may be absent and the blood may show a leucopaenia.

This brief sketch of the pathology of influenza will suffice to emphasize the frequency and importance of extrarespiratory lesions in the disease. The vast majority of these lesions, however, are insignificant, and although they may cause symptoms referable to the abdomen, etc., surgical intervention is rarely indicated.

As in pneumonia, error in diagnosis,—operation which has revealed a normal appendix, gall bladder, or pancreas,—has been the means of impressing upon us the frequency of abdominal symptoms as a reflex nervous manifestation from thoracic lesions of influenza. It is not only important to avoid unnecessary operations, but it is equally important to determine when surgical intervention is necessary, and in the literature as indicated by Dr. Russell, numerous aids in the differential diagnosis of true or reflex abdominal symptoms may be found. Asserson and Rathburn call attention to the following valuable expedients: the area of pain and tenderness in the abdomen is carefully mapped out; the patient is then directed to hold his breath. As long as the diaphragm is quiet, the referred pain and tenderness remain absent. Furthermore, X-ray examination of the chest may be an important aid in diagnosis. Too much stress should not be placed upon the absence of leukocytosis, even though a true abdominal inflammatory process normally responding by a general leukocytosis might be suspected, as it is well known that in influenza the myeloid tissues of the body are unable to respond to pyogenic infection in their usual manner.

DR. JOHN C. ROWLEY: I cannot add much to what has been said in this admirable paper, and Dr. Russell deserves our thanks for bringing up this subject. My opinion is that if we can get our eyes off the abdomen in these cases and look the patient over carefully in general before doing an operation, we may find that there are other symptoms besides those relating to the abdomen. There is no question but that the diagnosis is extremely difficult, and sometimes it is impossible to differentiate between pneumonia and appendicitis. Some of the cases I saw during the epidemic gave me the impression that if the patient was examined closely, one noted disturbance in the respiration and suppression of breathing on one side or the other, and in cases of that sort, even where the abdominal pain was quite acute it was wise to wait before operating. The symptoms of the abdomen are not so severe as in appendicitis. The abdominal tenderness is more pronounced on superficial rather than deep pressure.

DR. RUSSELL: I am very glad that Dr. Winternitz emphasized that this focal necrosis in influenza does not usually go on to pus formation. The exudate is absorbed in time. I wish to leave with you the impression that large numbers of these cases with abdominal symptoms do not have any definite findings in the lungs. I don't know why they should show symptoms in the abdomen unless there is some congestion of the intestines.

Heredity.

PAUL WATERMAN, M.D., Hartford.

The principle of the common origin of life was accepted as established by the work of Charles Darwin about fifty years ago, although for fifty or sixty years before his time this theory had been slowly developing in the minds of a number of men. It was finally based by Darwin upon the proposition that through natural selection there is a survival of the fittest. He believed that there was a constant variation among individuals of the same species and that natural selection chooses the fittest types from among the continually varying members of each group. In order to explain the apparently continuous evolution in any given line, he was compelled, although somewhat reluctantly, to adopt the principle of the inheritance of acquired characters,—that is, that the effect of parental experience was transmitted to the offspring. In order to have some process whereby he could explain the hereditary transmission of traits, he evolved the theory of pangenesis, according to which every single part of the body gives off minute buds or pangenes which pass through the blood to the reproductive organs so that each egg-cell and sperm comes to contain a complete set of these buds representing all parts of the body. This theory has never been proven and has little or nothing to support it in the body of our biological experience. The inheritance of acquired characters was seriously questioned by Weissmann, who presented as a substitute for pangenesis the theory of the continuity of germ-plasm. In Weissmann's own words the idea is that a part of the germ-plasm "contained in the parent egg-cell is not used up in the construction of the body of the offspring, but is reserved unchanged for the formation of the germ cells of the following generation." The two following diagrams will perhaps explain the meaning of these two theories: (Fig. 1.) (Ref. No. 1.)

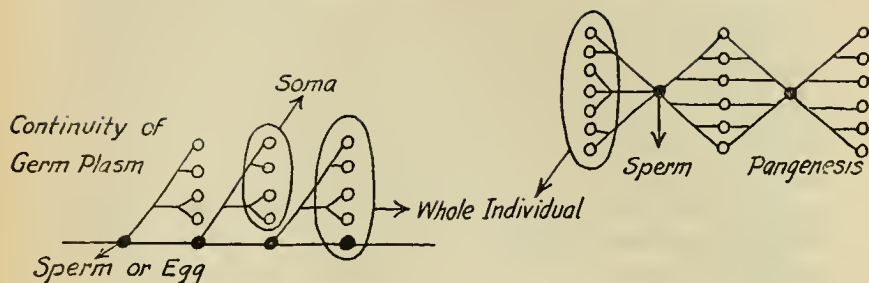


FIG. 1.

Thus we see that the germ cells of each individual are derived directly from the germ cells of the preceding generation. This segregation of the germ cells at the beginning of development is not wholly an imaginary idea. It has already been seen under the microscope in several instances. As a result of this theory you will note that the connection between the characters of two successive generations is not direct, but indirect. The traits of the son do not depend directly upon the father's, but indirectly in the sense that both depend upon the nature of the germ-plasm from which both are formed,—having similar material to start with and similar conditions in which to develop; like therefore tends to beget like.

That like does tend to beget like has been generally accepted, and the term "heredity" has been applied to the process through which the tendency expresses itself, but if it were an absolute fact that like begets like instead of merely a general tendency, there would be no science of heredity at all. If all individuals of a race were identical in type, the only problem of heredity would be to account for this identity. It is also a matter of common experience that no two things in nature are ever exactly alike. Some variations exist between the most similar parents and offspring, and it is the occurrence of these variations that offers our first problem in heredity. There are two general classes of variations, the continuous and the discontinuous. In grouping the various languages of the world for instance, we would find,

at least during the early stage of our investigation, that there is no smooth or sensible transition from one language to another, and we should call this a discontinuous variation, whereas in regard to their stature men pass by a fairly regular gradation from dwarf to giant in the form of a continuous variation. If we tabulate the statures of a thousand men ranging from sixty to seventy-six inches, we shall find that the largest number of men are about sixty-eight inches tall, and that the number falls off with about equal rapidity in either direction, which will give us what is known as the normal variability curve. (Fig. 2.) (Ref. No. 1.)

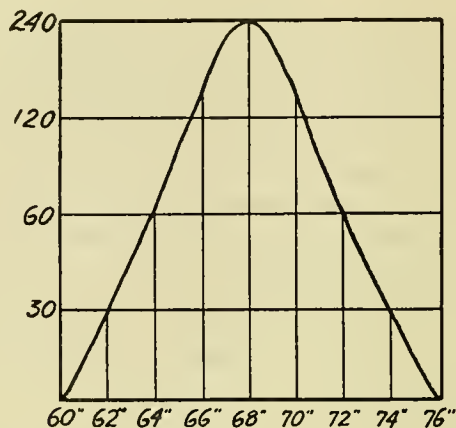


FIG. 2.

If we were to toss sixteen coins a thousand times and class the results according to the number of heads that fall, we should get a curve of almost exactly the same appearance. We thus see that the occurrence of a certain number of men of common height within a constant community may be a matter of pure chance.

It has been assumed that inborn variations are due to changes in the germ-plasm, whereas modifications or acquired characters are usually described as the abiding effects of external conditions on the body or organism. We cannot, of course, consider any organism apart from the conditions under which it lives,

but we may say that inborn characters are expressed only under certain conditions of environment, and acquired characters can appear only when the organism possesses certain inborn tendencies to respond to outside conditions. Thus in a sense every character is both inborn and acquired. Given constant conditions of life within a particular species, the organism would show only its inborn characters. If we could take a pair of identical twins, separate them at birth, and rear one under the best of conditions and the other under the worst, the differences resulting would be purely modification differences; whereas if we take two children of different parentage and rear them under exactly the same conditions, the differences would be altogether inborn. The occurrence of these inborn variations from the parental type has long been a matter of study. It seems probable that a great majority of them are due simply to new combinations of previously existent characters. Suppose we take four sacks of marbles of different colors, black, green, red, and yellow, to represent the respective germ-plasms of four individuals. By mixing the black with the yellow and the red with the green we get two new germ-plasms. If we now take random samples from each lot, say one-half dozen at a time, and mix the two, we will get what corresponds to a new generation. These groups will differ from each of their parents, and they will also differ among themselves. Something of this sort is going on in heredity. Bi-parental inheritance is not an intimate blend of two substances. In our example we did not introduce any new kinds of marbles; it was only that the combinations of the different colors were new. Similarly in heredity it is believed that most inborn variations are due to re-combinations of previously existing characters. It is true, however, that in order to have a new combination we must start with actual differences. Our experiment with marbles would have meant nothing if they had all been white. How then do these differences arise? There have been many occasions in nature observed in which something new evidently made its appearance. This sudden appearance of a novelty Darwin calls a single variation, and it is nowadays called a mutation. I will recite two historical examples of this

phenomenon. In 1791 on the banks of the Charles River in Massachusetts a male lamb was born that differed, for no assigned reason, from its parents by having a short body and short bandy legs, as the result of which it was unable to jump over fences. It differed markedly from the ordinary sheep. The variation apparently arose spontaneously, but after the ram was used for breeding it was noted that its offspring were either pure Ancon, like the parent, or else pure ordinary sheep. This type proved to be of no real value and has long since died out. The earliest recorded mutation occurred in 1590, when in a certain garden in Heidelberg there appeared among a number of plants of celandine of the ordinary type a peculiar new form with lancinated leaves and petals. This cut-leaved variety breeds pure from seed and is now widely grown, but all the specimens existent are descended from this one plant which arose unexpectedly as a sport. De Vries found a large number of mutations occur in working with the evening primrose and within a relatively short time ten distinct new types were discovered, all but one of which bred pure from the seed. It is probable, therefore, that such differences or mutations are of frequent occurrence in all life, and that many of our varieties of plants and animals have arisen in this way. Ordinarily only the most marked novelties have been noted or recorded, but it seems plausible that small changes occur in the same manner, and whether they be large or small, startling or insignificant, these changes are all of the nature of mutations, sharp and definite steps from one condition to another. Such actual changes in the nature of the germ-plasm are, however, the exception and not the rule. This conception of variation is quite different from that of Darwin, who believed that inborn variation was the rule,—that the characters of a species were in a constant state of flux, so that new variations in one direction or another could be produced merely by selecting in this or that direction. He emphasized the slowness of the process of change in normal life by the aphorism "*Natura non fecit saltum.*" It is true indeed that change in the mass is slow, but to-day we believe that nature does leap, in fact that it is only by leaps that change can occur,

and that the slowness of evolution is due to the fact that the leaps are infrequent and small.

Mutations may consist of a gain of a new character in which case they are termed progressive, but perhaps oftener in the loss of a character possessed by the race, in which case they are termed retrogressive. Any variation in which there appears a characteristic last noted in a remote ancestor is termed a reversion, of which some are retrogressive mutations while others are due to special cases of re-combination. The causes of mutations we do not yet understand at all, probably through lack of knowledge concerning the intimate structure and nature of the germ-plasm. Within the last few years, however, among certain species of animal life mutations have been produced at the will of the investigator, and they bred true for a constant environment. Under the general heading of variation we might well consider two popular ideas that have had some force in the control of breeding. The first of these is telegony, the supposed influence on the offspring of a female exerted by a previous mate,—that is, if a pure-breed bitch is mated with a mongrel it is believed that later matings, although pure, will produce some mongrel characteristics. Many examples have occurred to support this theory, but on the other hand, many careful experiments have failed to produce any evidence of it. The second subject is that of maternal impression, concerning which we may give similar conclusions.

The question of inheritance of acquired characters, to which we have already referred, has been and perhaps still is one of the most stubbornly contested in the whole field of biology. Much of this discussion has been wasted over an inexact use of terms. An acquired character is one acquired during the lifetime of the individual; secondly, there must be some evident, more or less abnormal, factor in the environment or habits of the individual which has caused this modification; thirdly, it is a change produced on the body of an organism and not directly on its germ-plasm. In the first place no one is of the belief that all acquired characters are transmissible; as a matter of fact the majority of them are not transmitted. Evidence of the inheritance of

mutilations is extremely scant and unsatisfactory. It seems fair to conclude that such few cases as are not open to objection may be coincidences. The effects of use and disuse, however, have been widely supposed to affect the whole organism more deeply than mutilations and thus to be more likely to affect the germ-cells. Lamarck's theory of evolution was to this effect,—that races were developed by the cumulative effects of use and disuse. The whale's hind legs disappeared from disuse, and the giraffe's neck became longer through its special use; but we have no proof that these explanations are the correct ones, and Darwin's theory of natural selection is the more acceptable theory, at least in so far as the effects of use are concerned. The disappearance of the eyes of the cave fish has been a difficult problem, and would appear to be the result of the effects of disuse. All that we can say is that the effects of use and disuse if inherited at all must be so to a very slight extent, but if cumulative through many generations, however slight in each, they may still be important in time. Another group of acquired characters may be described as the direct effects of environment as, for instance, the change in the color of the wings of certain butterflies according to the temperature under which the chrysalis stage is passed, but here again it is not impossible that the effect is produced upon the germ-plasm. Observation and experiments at least have produced only negative evidence to the contrary. There are, however, some apparent exceptions. The shepherd's purse seems to have been spread from a low country to higher altitudes along an old trade route in the East. The highland form is smaller and pink-flowered, whereas the lowland form is white. When the lowland form is transferred to the highlands, it becomes exactly like the native highland variety, even to the pink flower; changed back again to the lowlands it assumes its original form, but when the highland form is brought down to the home of its ancestors, it retains its character, pink flower and all. It would appear here that the change produced by the new conditions has gradually in the course of ages become hereditary. To sum up the argument it must be said that there is some presumptive evidence in favor of the inheritance of acquired

characters, but that experiments have given positive results of only the most meager and inconclusive kind, whereas negative results have been obtained innumerable times, and finally we have difficulty of conceiving any mechanism which would bring about the inheritance of modification, although such a mechanism may exist.

In 1903 the idea of the pure line was first introduced. It may be described as including all the descendants of a single individual belonging to a race which is propagated exclusively by self-fertilization. Variations within the pure line are probably due entirely to environmental conditions,—that is, they are all of the nature of acquired characters, but the germ-plasm remains unaltered. Inheritable changes must, however, sometimes arise within a pure line, otherwise there could be no way in which the different types have arisen. These changes are probably rare and are of the nature of mutations. The conception of the pure line brought about a very considerable change in our notions of heredity. It was formerly believed, as we have stated, that variation and change were the universal rule among living things, and that selection in any particular direction could produce change in that direction almost indefinitely, but experiments have proven that a definite limit would be put to the results and that the ultimate product of selection would be the pure line with the highest average content of the given trait.

For the fifty or more years before the appearance of Darwin's work there had been considerable investigation of the laws of hereditary transmission of traits for the purpose of discovering the interrelationships of species. Darwin's work established the hypothesis of evolution firmly, and by 1870 experimental breeding had almost completely ceased, because there was no more curiosity as to the significance of specific differences. Everyone was convinced that natural selection operating in a continuously varying population was a sufficient explanation of the origin of species,—that is, everyone with the exception of a small group of men who noted that, were this method the real one, intermediate forms should exist, and who maintained that variation was an individual and discontinuous phenomenon. In 1900 a

new era was introduced by the appearance of three independent papers giving the substance of the work of a monk in Austrian Silesia, by the name of Gregor Mendel. He had published the results of many years' work in 1865 and 1868, but his two papers received no general attention until 1900. In his breeding experiments instead of considering his products as individuals, according to the fashion of his contemporaries and predecessors, he considered the occurrence of separate pairs of traits and carried on his experiments systematically for several generations, and carefully counted the numbers of the different types that appeared. He selected the ordinary table-pea because it is prolific and easily grown, and because it is self-fertilizing, so that there was no opportunity for promiscuous crossing, and because many varieties show sharply differentiating characters. I will exemplify his work by taking one of the pairs of characters that he selected. He artificially crossed a tall type that habitually grows to about six feet with a dwarf type that ranges from twelve to eighteen inches. The hybrid product was invariably as tall as the tall parents, and on this account Mendel denominated the tall condition as dominant and the dwarf condition as recessive. He then allowed these hybrids to reproduce in the ordinary way by self-fertilization. The following generation was found to consist of two classes,—talls, of equal stature with their tall grandparent and their own parent, and dwarfs which were as short as the dwarf grandparent. There were no intermediates, and the number of dwarfs bore a constant proportion to the whole, in that there was one dwarf to every three talls. On further breeding by self-fertilization, the dwarf plants produced only dwarf offspring,—that is, they bred true. Here then was something new,—a dwarf plant was produced by a tall parent, and produced only dwarfs like itself in turn. When the tall plants of this generation were allowed to self-fertilize, it was found that some of them produced only tall offspring, whereas others like their parents produced both talls and dwarfs. There must then have been two kinds of tall plants in the second generation, some of which were pure in the same sense as their dwarf brothers, while others were impure in the sense that they did not

produce exclusively tall offspring, and it was further found that these two kinds of tall bore a constant ratio to each other, there being two impure to one pure. The following diagram will represent these experiments: (Ref. No. 1.)

T		D		Parents. First hybrid generation.
<hr/>				
T				Second hybrid generation.
<hr/>				
T	T	T	D	Third hybrid generation.
<hr/>				
T T T T	T T T D	T T T D	D D D D	

Two phenomena seem to appear,—the first of these is dominance, the complete resemblance of the first hybrid to one of the parents, the characteristics of the other parents being entirely suppressed; and the second is segregation, the separating out in the second generation, in definite proportions, of the characters combined in the cross. It is the second principle, that of segregation, that was Mendel's real contribution to the science of heredity, the phenomenon of dominance being subordinate to this and being variable. The case which we have cited represents complete dominance. In the case of the crossing of two forms of primula we have an example of incomplete dominance in that when two distinct types, such as the Chinese and the star varieties, are crossed, the hybrid product is intermediate between the two in regard to several important characters, but in the second hybrid generation twenty-five per cent are found to be pure like one original parent, fifty per cent hybrid like the first cross, and twenty-five per cent pure like the other original parent. It appears then that the distribution of parental characters, at least such characters as these which we have studied, among the individuals of the following generation follows a very simple scheme, instead of being as was formerly thought the most irregular of all the phenomena of heredity. The explanation of this ratio was given in the main by Mendel himself, although his theory has been somewhat modified by later workers. It is supposed that the tall pea, for instance, possesses some factor by virtue

of which it is tall, while this factor is absent in the dwarf form. All the reproductive cells, both male and female, ovules and pollen, of the tall pea possess this factor, while all those of the dwarfs lack it. The hybrid between the two forms is produced by the union of these two different types of reproductive cells. The degree of dominance will depend on the relative potency of the factor for tallness when present in the hybrid condition,—that is, will depend upon its introduction through one of the reproductive cells or through both. It appears then that the reproductive cells of the hybrid do not all receive an average sample of the hybrid germ-plasm, but that half of them come to possess the factor for tallness while the other half lack it. The factor is not in any sense divisible; there is no compromise between dwarfness and tallness. It is either present or absent, and, as a matter of fact, is present in half and absent in half of the reproductive bodies. With regard to any particular character the individual produces germ-cells of the same kind as those from which itself arose. The hybrid tall plant arose from the union of a tall and a non-tall reproductive cell, and it again gives rise to those two types in equal numbers. How, then, is the Mendelian ratio produced? We have two kinds of female reproductive cells in relation to the trait of tallness, and two kinds of male. The union takes place according to pure chance. We have T and D pollen-grains and T and D egg-cells in equal numbers. It is an even chance whether T pollen-grain unites with T egg-cell or with D egg-cell, and we therefore get the two combinations TT and TD in equal numbers. It is likewise an even chance whether D pollen-grain unites with T egg-cell or D egg-cell, and we therefore get the combinations DD and DT in equal numbers. Accordingly, with the two results we have the combinations TT, TD, DT, DD, in equal numbers, but since the second and third forms of combinations are the same we have really only three possible combinations which occur in the ratio TT (pure tall) twenty-five per cent, TD (hybrid tall) fifty per cent, and DD (dwarf) twenty-five per cent, which is the Mendelian ratio, and this is exactly the result that we would get from the tossing of two coins many times,—namely, two heads, twenty-five

per cent; head and tail, fifty per cent; and two tails, twenty-five per cent. Therefore we can form the following table of results from all possible combinations of hybrid characters: (Ref. No. 1.)

<i>Mating</i>	<i>Offspring</i>		
	DD	DR	RR
DD x DD	100%		
RR x RR			100%
DD x RR		100%	
DR x DR	25%	50%	25%
DR x DD	50%	50%	
DR x RR		50%	50%

This therefore has four important implications,—first, it implies the purity of the reproductive cells with regard to the characters which they bear,—the hybrid condition can be produced only by the union of male and female cells which are dissimilar with regard to the factor in question; secondly, each male and female reproductive cell contains a complete set of factors for determining the characters of an individual; thirdly, the fertilized egg and therefore the organism that develops from it is a double structure,—each character is represented twice over, one of the representatives having been obtained from the male parent, the other from the female parent, and these factors may be in similar or dissimilar pairs according as the male and female reproductive cells which formed it were the same or different; finally, and perhaps most important of all, the Mendelian theory conceives the germ-plasm as having a perfectly definite structure,—if derived from a hybrid it may have either of two structures with regard to any factor, but it cannot be a vague or indefinite mixture of the two. It must be admitted that we know nothing concerning the real nature of what we have called factors in the germ-plasm, and we can scarcely even theorize on the subject, but we may assume that it is by chemical research that these factors are to be investigated.

Let us turn for a moment to our experience with physiology, in order to see whether there is any suggestion therein of the manner in which this segregation of factors occurs. We have a small cell showing a single nucleus containing its chromatic

net-work. When this cell divides into two similar daughter cells we know that there is an exact division of its chromatic substance. Following this process under the microscope we note first a more regular formation of the chromatic net-work simultaneously with the bi-polar localization of the centrosomes. As the spindle is formed between these two the chromatin first breaks up longitudinally into a number of separate pieces which form themselves along the equatorial line of the spindle and then break longitudinally each one into two equal halves which then move toward their respective centrosomes around which they group and later unite into the reticulated form of the developed nucleus, while the body of the cell has been split into two parts, each one with its new and complete nucleus. This then is the way in which the somatic cells of the body reproduce. In sexual reproduction by the conjugation of the male sperm-cell with the female egg-cell an almost identical process is followed. No matter how different these two cells may be in form and structure their amount of chromatic substance is equal in the two, and we know likewise that this amount is the same in the cell produced by their union. This is made possible by the splitting in two of each sex-cell before conjugation with the loss of one of the halves from each. We have reason to believe that the nucleus is the center of the cell's activity, and it seems probable that the chromatin is the essential portion of the nucleus, and that in this chromatin are borne the factors or determiners which determine the character in general and particular of the succeeding offspring. If all the determiners of the male were added to those of the female in fertilization the results would be that the number of these determiners would double in each succeeding generation. We have already reviewed the mechanism which prevents this. This process was seen and studied under the microscope for a long while before its significance was known. There are for each character two determiners, one of paternal and one of maternal origin, and in the splitting-off process, which we have seen, one or the other determiner is eliminated but not both. It appears to be a definite condition that one-half of each kind of chromosome must go to each daughter cell, but

it appears to be a matter of chance whether the determiner that goes be of paternal or of maternal origin, or of both. It is possible under the rules of chance that one germ-cell should have all its determiners of maternal origin, while the other cell has all of a paternal origin. In the last few years some new terms have been added to these phenomena according to which the offspring that has a double determiner in respect of any trait is known as duplex; whereas an individual that has the determiner from only one parent is known as simplex, and where both determiners are absent or negative, nulliplex. The absent character is called recessive or recedent, the present character dominant, and the duplex and nulliplex conditions are termed

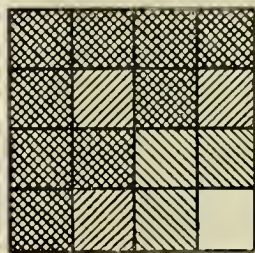


FIG. 3. (Ref. No. 1.)

homozygous, while the simplex is termed heterozygous, and the whole process is known as gametic reproduction.

Let us now study the occurrence in heredity of two traits at a time, by crossing two types of cattle, one of which is black and hornless, while the other is red and horned. Black color appears to be dominant to red, and the hornless condition to the horned. The first generation will therefore be black and hornless. In order to show the distribution of the characters among the individuals of the following generation, we will draw a square and divide it into four equal parts. (Fig. 3.)

We may shade three of the quarters to represent that three-fourths of the next generation will be black and one-fourth red. The other pair of characters, however, is inherited independently so we must divide each of the quarters again into four, and shade

three-fourths of these in each quarter in the opposite direction to show that three-fourths are hornless and one-fourth horned. Of the sixteen subdivisions nine are shaded in both directions representing both dominants, that is black and hornless, three are shaded in one direction only representing red and hornless, and three are shaded in the other direction only representing black and horned. One square remains unshaded, representing red and horned, a homozygous or duplex, recessive in regard to both traits. From this example we obtain the ratio nine with both dominants, three with one dominant only, three with the other dominant only, and one with both recessives.

Supposing we now take a somewhat more complex case, that of color in rabbits. If we cross a grey rabbit with a white or albino, grey is dominant. If the first generation greys be bred together, the usual result is three greys to one white, but sometimes a black rabbit appears in this second generation, in which case the ratio is nine grey to three black to four white. The explanation which has been suggested for this is that two factors are necessary for the grey color, one of which is the general factor for color in the presence of which color is produced, while in its absence the animal is white. If this factor C alone is present the color will be black, but there is an additional factor G which changes black to grey. To show this procedure we might block in three-fourths of a square to represent seventy-five per cent of the second generation that will show the dominant color; of these again three-fourths will contain the dominant greying factor, and we will therefore divide each one of the black squares into four and dot over three-quarters of them to show that seventy-five per cent of the colored animals will be grey, which will give a ration nine grey, three black, and four white. (Fig. 4.)

At the same time we must bear in mind that of the four white rabbits three will contain the factor G and that these three will be disguised greys, while the other one is a disguised black, the color in each case being suppressed owing to the absence of the factor C. Supposing we cross the pure disguised grey with the pure black type, C being introduced by the black parent and G

through the white, the first generation should all be grey, which is a case of reversion brought about by re-combination of characters previously existent. This combination of factors gives a ratio 9-1, but we can see that this as well as the 9-3-4 ratio is only a modification of the 9-3-3-1 ratio that we first obtained in dealing with double characters. We have in this way obtained an indication that there may exist a very complicated association of determiners for traits that appear outwardly to be of the most simple character. It is impossible for us to say in fact whether a trait is the expression of a single determiner or of a large number of determiners, and the only way in which this can be settled is extensive experimentation. It appears already

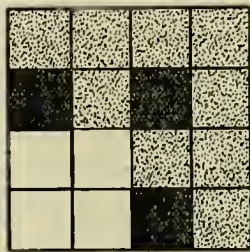


FIG. 4. (Ref. No. 1.)

that certain characters never appear in association with other certain characters, while on the other hand some characters appear only in association with each other. This feature has long been familiar to us in the occurrence of hemophilia which is transmitted in a direct relationship to sex, and we have in addition a large number of secondary sexual characters that are ordinarily limited to their respective sexes. In this connection it may be of interest to note that sex itself may be produced by a sex-determiner, although the evidence from the various types of organism is inconclusive as to which sex is the dominant one.

There is still much doubt whether Mendel's law may be applied universally to inheritance. It seems, at least, that many apparent exceptions occur. The majority of these are cases in which the first hybrid generation is apparently a blend of the traits of the

parents, and where this blended condition appears to be continually reproduced in subsequent generations. One of the best known examples of this is the skin-color in man. The mating of a negro with a white man usually produces a mulatto, intermediate between the two colors of the parents. This might, of course, easily occur in the Mendelian method, but if this theory were to be applied to later generations, from the marriage of two mulattoes we should expect one white, two mulattoes, and one negro, which is an uncommon, perhaps unknown, result. It is quite possible, however, that this case is only a somewhat more complicated example of the process which we observed in the color of rabbits. Another more marked example of this blending occurs in the crossing of lop-eared with ordinary rabbits in which case all the descendants have ears of intermediate length. Here again, however, the character of the ear-length may depend on a large number of independent factors, so that no conclusions should be drawn until a very large number of experiments have been made. In these cases we are dealing with characters that have been produced by continuous selection through many, many generations in which the final product is a combination of many factors all having certain effects on the character in question, but independently inheritable. The rebuilding of this combination, once broken down by crossing, must necessarily be a difficult process, unless enormous numbers of individuals are raised in the second hybrid generation. It has also been objected that the pure types in the second hybrid generation are not absolutely pure, that they retain traits of hybrid character, and have a tendency to throw back to it. Here again, however, there may be a question of action of numerous pairs of factors. In the Mendelian crossing all the individuals of the first generation are hybrids, in the second half are hybrids and half are pure in respect to any common character. If all these individuals reproduce at the same rate by self-fertilization the percentage of hybrids is halved in each successive generation and after a time their proportion becomes negligible. A self-fertilizing population would therefore be expected to consist of a number of perfectly pure types showing no variations of

hereditary value, and this is exactly what occurs in the results of the pure line experimenters. We cannot by any means yet say that the Mendelian law applies to all characters in all kinds of living organisms. It is certain, however, that it applies to numerous characters in many species of plants and animals, and it seems doubtful whether any real exception has yet been found.

While a large group of students of heredity have confined themselves to its Mendelian relations, another but much smaller group has attacked the subject from its statistical side. Sir Francis Galton, who was trained both as physician and mathematician, believing that the phenomena of heredity showed a certain regularity, endeavored to determine the laws under which this acted, and as a result of his investigation promulgated Galton's law to the effect that an individual inherits one-half of its traits from its parents, one-fourth from its grandparents, and so on in diminishing ratio through ascending generations. This law has been modified somewhat by his successors, but it remains approximately true and is distinctly apparent in certain human traits, such as stature. In investigating this character of stature, a secondary principle was indicated,—that the offspring of extreme types reproduce the type in an intermediate degree, about half way between the parent and the norm of the race,—in other words that in regard to racial traits there is a constant tendency toward a mean between the two extreme variations in regard to each particular trait. The coefficient of heredity for stature in men is .51, which is unusually high, indicating either that stature is very largely a matter of heredity, or that environmental conditions tend to have similar effects on father and son. Within a pure line, the differences being chiefly acquired differences and due entirely to environmental conditions, the coefficient of heredity of these differences is 0. We must bear in mind that the statistical method instructs us merely as to effects of heredity in the mass, and that it can scarcely give us an insight into the mechanism by which heredity works. The chief field for the statistical method will include those cases which are too complex for the Mendelian analysis.

Let us consider now briefly some of the practical applications

of our knowledge of heredity, and in this we must be even more cautious, more conservative than we were in accepting laboratory or study-chair conclusions. In plant life, at least, certain valuable suggestions have been obtained from Mendelism, especially in regard to the fixing of new types. If the desired characters are recessive they will breed true and will not require fixing beyond the first selection. With dominants ordinary mass selection will be unsatisfactory because a number of recessives will recur each year, although progressively diminishing. In order to fix a dominant we must grow the seeds of each plant of the second generation separately and among its offspring the groups that show no recessives will contain no hybrids and will therefore breed true. We must bear in mind, however, that in reducing this strain to a pure line, there is at the same time a tendency toward loss of vigor as has been proven both by the scientist and by the practical breeder. The indication from this, then, is that occasional crossings are desirable. The sum of the experience of animal breeders is practically to breed in to fix type, breed out to secure vigor, in general compromise, and theory can offer little in addition.

When we come to apply any rules of heredity to the human race, we shall meet with even still greater difficulty, whether these rules be the few simple ones that we think we have already found, or whether they be the more complete rules that some people expect to find in the future. In relation to the human race, heredity has developed a special school of science,—namely, that of eugenics, which owes its title and its existence to the work of Francis Galton. National eugenics as defined by him “is the study of the agencies under social control which may improve or impair the racial qualities of future generations either physically or mentally.” According to Darwin’s theory the forces for the betterment of a race consisted of natural selection working by means of a selective death-rate toward the survival of the fitter. This was the mechanism undoubtedly which controlled the evolution of primitive life. We must, however, inform ourselves whether it is effective at present. A selective death-rate means that a certain proportion of a community or

species in any given generation will die as the result of constitutional causes, as the result of weakness or susceptibility inborn in the individual. As long as the environment of the species remains constant, the value of the selective death-rate is unity or 100 per cent. As conditions of environment change, its value is lessened, and at present for civilized communities it is assumed to be between fifty and seventy-five per cent; in fact extensive statistics have placed it at sixty per cent. Our present environment, working largely through the forces of sentimentalism and of democracy, has tended very markedly to diminish this value still further because we do our utmost to protect the weak from death. This procedure would impose its additional burden on each generation but without any marked cumulative effect upon successive generations if it were a fact that all types or classes of human beings were equally fertile, if each group according to its fitness produced an equal number of offspring with every other group; but this does not seem to be the case, because it appears that the fitter stocks are less productive at present, that the less fit or unfit stocks are more fertile, and when we add to this the fact, or what appears to be a fact, that twelve per cent of those born in this generation will produce fifty per cent of the members of the next generation, we can realize that we are facing at least a theoretical degeneration rather than an evolution. One recourse that we have wherewith to correct these harmful influences is to establish a selective birth-rate, because the existing artificial birth-rate appears to disregard numerous characters that make for social welfare. In general there are two courses for us to follow to this end; the first is to eliminate the unfit by segregation as we are already striving to do in some measure, and the second is to stimulate the procreation of the fit. Such principles as these are easily enunciated but difficult to put into practice, nay even dangerous, because we are dealing here with laboratory material never before used and of the most complicated character. We feel fairly safe in determining certain extremes of badness as harmful to the race, as deserving of elimination, but the cautious scientist will distinctly hesitate before he undertakes breeding experiments in the human race,

because he cannot be sure that in breeding for one group of good traits he will not introduce an equal number of harmful traits, or that in attempting to breed out certain bad traits he will not lose others that are essential, and furthermore, what may be particularly desirable in this generation might prove to be harmful ten generations hence. Practically the only safe rule for us to follow at present is to breed from average good stocks and to avoid anything that is positively bad. If we had to make a definite set of rules for breeding they would be somewhat as follows:

- First: Select good material;
- Second: Inbreed;
- Third: Apply artificial selection;
- Fourth: Outbreed;
- Fifth: With certain limitations as to type and to time.

These rules apply, however, to the breeding of large groups for racial development in the mass rather than to small groups or communities. There exist within every race certain barriers to the natural or easy application of these rules, which are geographical and social. The effects of the former we see in valley populations hindered from easy access to the outer world by abrupt mountain ranges, and in the population on some parts of the seacoast, especially upon islands. The social barriers are equally evident in their action, being determined by the limitation in marriage selection imposed upon the members of the various social classes. As an example of the latter we might cite the tendency of institutional inhabitants or workers to intermarry as, for instance, among the deaf and dumb who are thrown into each other's society by the nature of their defect. The stable non-migratory population tends to multiply its negative traits by inbreeding,—for instance, if we may assume that weakmindedness is a negative trait, of which it has certain characteristics, if not all, we know that its occurrence increases by inbreeding, whereas it may diminish by outbreeding. On the other hand positive traits, such as hemophilia, tend to diminish in a stable population, but increase by migration and outbreeding

through the development of new foci. Examples of the heredity of feeble-mindedness or of anti-social mental traits are found in the histories of the Jukes family and of the Ishmaelites in Indiana, and of the inheritance of good traits in the Edwards family with which you are all familiar. Those who maintain that environment or nurture plays an important rôle in the development of the individual would argue that had the members of the Jukes family received the same training both at home and abroad with the same good nourishment that the members of the Edwards family had, they would not have continued to be as actively anti-social as they were. This position of the euthenists would seem, however, to be ill taken, because there are no experiments or statistics that tend to substantiate it, whereas there are many that contradict it. The study of the Kalikak family in New Jersey should serve as an argument against this position.

Note: The writer does not pretend to any originality in this paper or to any special knowledge of the subject, other than what he has been able to obtain from spare-time reading, but he has tried to give a brief historical review and a summary of recent opinions on Heredity in order to provide a ready source of reference for the members of the Society, and to do this he has drawn largely from Mendel's Principles of Heredity by Bateson of the University of Cambridge, Parenthood and Race Culture by Saleeby, the writings of Karl Pearson and his colleagues of the Francis Galton Laboratory of the University of London, and Heredity by Watson of the University of Edinburgh, of which latter excellent book much of this paper is an abstract.

No. I. Heredity. J. A. S. Watson, Edinburgh.

DISCUSSION.

DR. C. F. HAVILAND (Middletown): Dr. Waterman's paper clearly shows the complexity of the subject of heredity. When we realize that in the tenth generation each individual has 1,024 tenth grandparents, it is evident every person is made up of innumerable convergent elements and that there is a constant tendency to an average mean. But we know that in every generation there are individuals who depart widely from the mean, either advantageously or disadvantageously. And as Dr. Waterman has pointed out, every human attribute, whether normal or abnormal, is

in a sense inborn, in that potentiality must exist before actuality. We have organism, environment and potentiality either for adaptation of organism to environment or lack of such potentiality, in which case there is no adaptation and the organism perishes. The equation of course holds good for the human organism but here the adaptation is accomplished through a highly differentiated nervous system, containing infinitely greater potentialities than any other living organism. The human mind in seeking ever better adaptations, endeavors to understand the laws of heredity, but with the theory of psycho-physical parallelism, is merely making manifest a potentiality of human organism.

It is evident that in any specific adaptation the final result is the product of intrinsic and extrinsic factors, and while there is a limit to possible variations there is, nevertheless, a wide range of possibilities as regards the relative potency of each type of factor. But it is idle to talk of the relative importance of heredity and environment. Both are important, and as one supplements the other neither can be practically considered, except in its relation to the other. As Professor Cattell of Columbia once said,—“Heredity is what a man may be,—environment is what he is.” That is, the human unit represents ancestral possibilities, as revealed and modified by environmental conditions.

That hereditary endowment has something to do with disease has long been recognized. The “diathesis” and “predisposition” of our medical forbears indicates their recognition of the fact, while the knowledge that heredity taint is important in the production of nervous and mental disease is commonplace.

Early theories of heredity give little help in suggesting practical means of control of evil inheritance. It remained for Mendel’s theories, so well set forth in Dr. Waterman’s paper, to offer an opportunity for practical work. If such theories be correct inheritance is merely a matter of precise selection and reconstruction of parental qualities. And so far as control of parental qualities can be exercised, so far can inheritance be directed. Were complete analyses of unit characters possible, inheritance could be predicted with mathematical certainty, assuming the absence of adventitious extrinsic factors.

There seems to be no good reason for the somewhat acrimonious discussions which have from time to time arisen between adherents of Galton’s biometric theory and adherents of Mendel’s mosaic theory. One theory attacks the problem in mass and the other in the individual. They offer no essential contradictions, and the body of facts collected by each method supplements the other.

As yet relatively little is known as regards unit characters in man. The very complexity of the matter will render progress slow. But sufficient facts have been determined to indicate that congenital cataracts, certain digital malformations and probably eye color are transmitted according to the Mendelian law. Furthermore a former colleague, Dr.

Rosanoff, has published results of an investigation he made, which seem to show that hereditary mental disease and allied neuropathic conditions are transmitted according to Mendel's theory. One of the first facts that appeared in his study was that different forms of hereditary mental disease did not constitute independent hereditary characters, but were closely related to imbecility, hysteria and so-called psychopathic states. In other words, he failed to find that clinical distinctions, so far as the matter of nervous heredity was concerned, were of essential importance. What he did find were manifestations of neuropathic makeup in closely related persons, expressed in such different forms as mental defect, epilepsy, hysteria, eccentric personalities, dementia praecox, manic-depressive insanity, etc. But a neuropathic makeup was not held as the basis of all mental and nervous cases studied. Cases of paresis and alcoholic conditions were excluded as probably being predominately exogenous in origin, while Huntington's chorea was found to be plainly an independent Mendelian character. But cases of paresis, alcoholism and other types of mental and nervous disabilities of exogenous origin must be further studied with regard to the rôle played by a possible Mendelian "determiner," for after all but a relatively small percentage of syphilitics become paretics, and relatively few victims of chemical poisoning and bacterial invasion show mental symptoms.

Rosanoff found a number of instances of neuropathic children born of normal parents, but not a single case of a normal child born of parents both of whom were neuropathic. This neuropathic makeup can be regarded as recessive to normal. Formulating Mendelian expectations accordingly, we have:—

1. Both parents being neuropathic, all children will be neuropathic.
2. One parent being normal, but with neuropathic taint from one parent, and the other parent being neuropathic, half the children will be neuropathic and half will be normal, but capable of transmitting the neuropathic taint to their progeny.
3. One parent being normal and of pure normal ancestry, and the other parent being neuropathic, all children will be normal, but capable of transmitting the neuropathic makeup to their progeny.
4. Both parents being normal, but each with neuropathic taint from one parent, one-fourth of the children will be normal and not capable of transmitting neuropathic taint to their progeny; one-half will be normal, but capable of transmitting neuropathic taint and the remaining one-fourth of the children will be neuropathic.
5. Both parents being normal, one of pure normal ancestry and the other with neuropathic taint from one parent, all children will be normal, but one-half will be capable and one-half incapable of transmitting neuropathic taint.
6. Both parents normal and of pure normal ancestry, all children will be normal and incapable of transmitting neuropathic taint.

As a matter of fact the study of the pedigrees of several hundred cases showed actual findings in extremely close relation with theoretical expectations, especially when it is considered that many children died in infancy, before nervous inheritance is manifested, numerous families have but a single child, and there was a margin of error due to incomplete pedigrees.

Thus neuropathic taint apparently follows the same law of transmission as the dwarf peas in Mendel's early experiment.

It is true we know too little of unit characters to make broad generalizations in reference to human mating. Unit characters may not only influence each other, but there may be compensatory associations of unit characters. But demonstrated facts do show the unwisdom of a mating between two neuropathic or defective individuals. Yet during the past year three instances have come to my attention, where such action was promoted, in one case by a selectman, and in the other two cases by a clergyman. The kindly motive was to legitimize illegitimate offspring, the social consequences, of course, being ignored.

Regardless of theory, common experience indicates that evil extremes in mating should be avoided, and our sterilization laws are directed to such end. But while theoretically desirable, it may be questioned if much dependence can be placed upon their operation in the face of present unconcerned public opinion and religious opposition. Furthermore, sterilized individuals remaining in the community are frequently active disseminators of venereal disease, and constitute great moral hazards. Were persons for whom sterilization is proposed, permanently segregated in institutions, society and posterity would be equally served. Great as the financial cost would be, it would be no greater than the present cost of allowing such persons to remain in society, while future generations would reap the benefit through the gradual elimination of at least the grosser types of defective humanity.

DR. WATERMAN: I am grateful to you all for your attention and to those who have discussed the paper. I concluded my paper with some warnings and some references to the biological foundations of the theory of heredity,—which I omitted in reading the paper, but which will be available when published.

Modern Problems in Mental Medicine.

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Introduction.

Step by step as a science progresses the mass of knowledge composing it increases and the methods of obtaining desired results become more complicated and specialized. While the knowledge of single items becomes more accurate, as the horizon of a science is broadened, the number of scientific problems encountered increase rather than decrease. It is fortunate that coincident with the recognition of these problems additional facilities for solving them are provided. However, all of this has made it necessary that the efforts of many employed in medical activities should be concentrated, that is to say, narrowed and specialized, that the specialist might have the technical capacity for carrying on his work with the best possible results. This is highly desirable in many branches of medicine, but since psychiatry is a subject of major importance the field should be broadened rather than narrowed.

Specializations have evolved from the diversity of systems and organs into which the human body is divided, but psychiatry more than any other medical specialty owes its origin to practical requirements. It has been separated from the rest of medicine not because of any maturity of doctrine nor for anatomical reasons, but it commenced to establish its individuality contemporaneously with the recognition of the social necessity of isolating the mentally afflicted, at which time its relation to medicine was sometimes discussed but usually denied. Just as epidemics determined the necessity of pest houses, even when the cause of the contagious malady was unknown, so in times when scientific psychiatry had no existence, the need of removing the mentally disordered patient from the community environment brought into existence the old fashioned asylum.

The gradual approximation and annexation of psychiatry to medicine has been a process of slow, tedious, evolution, through historical phases identified by special scientific tendencies, which if they do not actually constitute chronological periods in the strict sense of the word, serve to mark the logical development of this science. Thus one might speak of the Humanitarian Custodial Period of Pinel, when humane treatment first superseded cruelty and neglect. This was followed by the early Psychological Period, at which time there was a well defined tendency towards the psychic explanation of mental disease. Then the Anthropological Period unfolded and the pessimistic doctrine that mental disease was purely a hereditary defect was strongly supported. This was followed by the present day attitude of interpreting all mental disturbance as pathological manifestations of a disturbed psychic or anatomic mechanism.

Medical science is now entering a new era, the Period of Public Health activities. And since the attempt is being made to interest the public in medical problems which vitally concern it, the occasion is appropriate to interpret mental hygiene as a public health measure; by so doing, mental medicine and public health will advance coincidentally.

It would seem as if the public health machinery now in existence, especially that of the Federal, State and Municipal Health Departments, might be useful in solving the great problem facing mental medicine, namely how to provide the necessary care for mental deviates. It is not very difficult to decide what is the best treatment for these patients, but it is often impossible to provide such treatment. The chief reason such a difficulty exists is due to the fact that there is a conflict between the sociological and medical viewpoint; the difference in viewpoint being that Sociology works primarily for the good of the community, often ignoring or sacrificing the individual, while Medicine necessarily has a tendency towards individualization. The result of the sociological treatment of mental disease is that, as in the case of the old sociological treatment of infectious disease in a pest house, the sick individual is often neglected. It is quite evident that mental disease is primarily a medical problem and secondarily a

sociological one. The community is necessarily interested in the care of a certain class of mental patients, the so-called committable group, and therefore the matter cannot arbitrarily be removed from its sociological setting and turned over to medicine any more than medicine should relinquish it to sociology.

Believing that mental hygiene is a public health measure, one deserving financial and professional support, the Connecticut State Department of Health, being essentially a medico-sociological institution, tentatively established a Division of Mental Hygiene, for the purpose of studying the situation with the hope of finding the solution for some of the problems which have arisen as the result of this conflict between the social and medical care of mental disease. Nearly every state in this country has evolved some plan for supervising and improving the care of the insane and defective. This has been accomplished most effectively in those states in which there is a centralized body of control. There can be no question but that this control should lie in the hands of the medical profession, and since the State Board of Health is the connecting link between society and the medical profession, the medico-social problems of mental deviation might well be studied and possibly handled by a division of Mental Hygiene in the State Department of Health.

*Mental Hygiene Program of the United States Public
Health Service.*

The increasing recognition by health authorities of the significance of mental disease as a health problem and the growing demand for assistance in formulating a program of practical control and preventive measures led the United States Public Health Service to publish in February 1919 a program of mental hygiene activities which they plan to carry out. So that while Connecticut is the first State to actually start a division of Mental Hygiene in its Department of Health the United States Public Health Service originally set the example. The mental hygiene program of the United States Public Health Service takes into consideration:

A. The most effective means by which the several Government agencies can coöperate in studies and investigations of matters relating to mental hygiene.

B. Investigation of the problems of better care and treatment of the insane, mental defective and epileptic.

C. Instigating measures for the prevention of mental disorders.

So far as these considerations are concerned the studies and investigations already made by the Public Health Service indicate the following activities as desirable and practicable.

A. Coöperation with other Government Agencies.

1. In addition to the duties prescribed by law as related to the mental examination of arriving aliens, coöperation with the Department of Labor (a) to establish a school for the training of medical officers as mental hygienists, (b) to provide facilities for training nurses and assistants for duty in mental hygiene work, and (c) to investigate the care and treatment of insane aliens confined under immigration laws in public and private institutions at Government expense.

2. Coöperation with other bureaus of the Treasury Department in the mental examination of coastwise pilots, locomotive engineers, and train dispatchers as a safeguard to the traveling public.

3. Coöperation with other bureaus of the Government to devise practical methods for the mental examination of civil employees of the Government with a view to determine their fitness for different occupations.

4. Coöperation with the Department of the Interior in the study and prevention of insanity and mental deficiency among the wards of the Government, such as the Indians, Esquimaux, and other primitive races for which the Government is responsible.

5. Coöperation with the Bureau of Education in the revision of educational methods from the standpoint of mental hygiene.

6. Coöperation with the Bureau of Education in devising practical plans for the establishment of special classes for the training of feeble-minded and delinquent children.

7. Coöperation with State departments of justice and other agencies to secure (a) the adoption of a model law providing for the early treatment of mental disorders, (b) the enactment of a model commitment law, and (c) the establishment of psychiatric pavilions in general hospitals.

8. Coöperation with Federal and State departments of justice to secure the establishment of psychiatric clinics in connection with the courts to determine the mental status of criminals, dependents, and delinquents appearing before the court.

B. *Prevention.*

1. Coöperation with State and local agencies to secure the adoption of a law making certain types of mental disorders reportable to the health authorities.

2. Reviewing and publishing State laws of commitment of the insane and feebleminded.

3. Coöperation with the State and other agencies to determine the prevalence of the insane, feebleminded, alcoholics, and epileptics.

4. Investigating the prevalence and the care and treatment of the insane, epileptics, feebleminded, criminal and dependent classes confined in institutions in Alaska and in the insular possessions.

5. Compiling a national reference index of the literature on mental hygiene.

6. Investigating mental status in relation to certain constitutional diseases and drug addiction.

7. Coöperation with the industrial hygiene unit of the United States Public Health Service in the studies and investigations of the mental status of workmen as related to output, fitness for the job, protection from health and injury hazards, and permanence of employment.

8. Coöperation with the child hygiene unit of the service in the study and investigation of insanity in children and the personality of the potentially insane.

9. Coöperation with the Division of Venereal Diseases in studies and investigations of the mental status of prostitutes and of the relation of venereal diseases to mental disorders.

State Mental Hygiene Activities.

This comprehensive interpretation of Mental Hygiene as a public health activity is not applicable in every detail to a state situation, but the broad underlying principles are the same. It is not possible at present to conduct a campaign of such magnitude as that outlined by the Public Health Service, in fact it seems advisable that the formation of a State Mental Hygiene policy be, for the time being, a matter of evolution, dependent on situations and opportunities. There are definite tasks awaiting a mental hygiene body controlled and financed by the state. It seems desirable to discuss a few of the situations constituting some of the modern problems in mental medicine as well as the opportunities for Mental Hygiene work.

The treatment of mental disease is the greatest single enterprise in which the state is engaged. It is an enterprise in which the state has practically a monopoly. It is not only the greatest enterprise carried on by the state but it is the greatest medical enterprise carried on within the borders of the state, for the number of beds in the hospitals for the insane is larger than the total number in all other hospitals in the state. This is true although the State cares for a relatively small proportion of the total number of the mentally afflicted.

The mentally afflicted might be arbitrarily grouped in four classes, such classification depending on the nature of the care the patient should receive.

1. *Those who have a mental disorder but who could be adequately treated outside of state institutions.* There are many such individuals, they surely many times outnumber the mentally diseased cared for by the state. In this group are found some of the incipient as well as the temporarily mentally aberrated and even some of the mental defectives, who often could best be treated in their own community, were the mental clinics, psychopathic wards in connection with general hospitals and special classes in schools provided. Such provisions are not going to be generally made until some strong, reputable body, such as the State Board of Health, urges it.

2. *Those who should be cared for in a mental hospital but are not receiving such care.* There are several factors responsible for the existence of many mental sick patients in this state who need but do not receive hospital treatment. Under the present system of commitment to state hospitals, the town pays part of the cost of the care of the indigent and paupers. Under such a system it is frequently difficult to persuade the selectmen of towns to authorize the commitment of any patients except those who constitute a menace to the community. This is one example of where the community's purse is considered, rather than the health of the sick patient. The instigation of commitment proceedings for indigent and pauper mental patients could advantageously be placed in the hands of the health officers. If local health officials were given the authority and expected to see that mentally diseased individuals were promptly committed to hospitals for treatment, the present evil of not committing the pauper mental case to a hospital because of the expense incurred by the community might be obviated.

There are today, in spite of the state law to the contrary, undoubtedly individuals being detained in almshouses who need treatment in mental hospitals. A strong, constantly alert, centralized authority is needed to prevent mentally afflicted individuals from being kept indefinitely in almshouses.

3. *There are the mentally ill who are being cared for in hospitals, either private or state.* A division of Mental Hygiene could help the state hospitals by assisting them to obtain the needed facilities for caring for their patients, and although we are justly proud of the splendid State Hospitals in Connecticut, no State Hospitals in the United States are yet so perfect that they could not be improved.

This State has an unusually large number of private hospitals for the treatment of mental disease. Some of these hospitals are splendid institutions, but it is a well known fact that some of them exist here because they could not do so under the regulations in New York. The scientific supervision of the private mental hospitals in the State, although important, is negligible.

4. *The patient who has been discharged or paroled from a*

mental hospital. These patients receive practically no supervision from the state after leaving the hospital. Very few states as prosperous and socially inclined as Connecticut fail to do this. It is debatable whether or not the hospital paroling or discharging the patient should not supervise the patient during convalescence. It is imperative that someone should be responsible for such follow-up work; if the hospitals are unable at present to do this, some department of the State government should undertake this work.

One of the important undertakings of a State Department of Health is the dissemination of information relative to disease and conditions causing it. Such information, because it is sponsored by the State Department of Health, usually has a wide circulation and receives careful consideration. Mental disease is universally misunderstood by all of the laity and part of the medical profession. It is necessary that the laity be taught that insanity is a form of disease and be made to realize that as soon as an individual is suspected of being mentally ill treatment should be instituted. However, the dissemination of such knowledge will be of little practical value unless the members of the medical profession are familiar with the usual forms of mental disease and their treatment. It is not unusual to find some laymen who are as familiar with mental disease as the average physician. The organized departments of health have already accomplished much in raising the standards of medical care, especially in infectious diseases; they might help to accomplish a similar reform in psychiatry. Not only the individual physician but also the medical schools must be shown the great importance of increased psychiatric instruction.

Ignorance of the legal procedures incident to the care of mental patients has held mental medicine back almost as much as have the antiquated procedures themselves. Some of these laws are indefinite, some obsolete, and many not enforced. Therefore, the laws relating to mental disease and defect have been abstracted and interpreted by the Mental Hygiene Division of the State Department of Health, and will be included in the Manual of State Laws relative to public health which is issued by the Department of Health.

The physician at present occupies a position in psychiatry similar to that of the doctor in our army—he is necessary, but a nuisance. This is true because mental medicine is almost completely under the control of legal authorities. The judiciary and legislative bodies listen more or less attentively to the medical profession, then calmly dispose of the care of the mental patient in accordance with traditional ideas of political economy. A few individual physicians cannot alter this situation, but an organized body, endowed with legal authority, and a medical viewpoint, functioning as a state department, can do so.

Conclusion.

There have been mentioned only a few of the most evident psychiatric problems which are the result of the medico-sociological conflict. In solving these, a State Department of Mental Hygiene, either as a separate department or operating under the Department of Health, can be of service to the community, the sick individual and the physician; for this reason it deserves the support of the medical profession.

There may be other methods of accomplishing the desired results but no other method seems as fully applicable to the needs of this state, nor capable of such broad scientific expansion, as does the plan outlined. With mental hygiene interpreted as a public health movement we may expect to see the day when the community and the physicians will give as much attention to the prevention and treatment of mental disease as they now do to other major branches of medicine.

DISCUSSION.

DR. WHITEFIELD N. THOMPSON (Hartford): Dr. Terhune has laid out a very ambitious programme. Some of you who have not given attention to this work may feel that he has added something for good measure. I think this is not the case and that time will justify the requirements he has laid upon the Mental Hygiene movement. One suggestion made overtops all others in immediate and practical importance,—provision or opportunity for the care of recent or acute cases in insanity under such arrangements of relations with a general hospital that patients and their friends cannot offer the objection now usually met, that the severity

of the illness is not such as to require sanatorium care or commitment to an insane hospital. Individual comfort and happiness, and public safety, interest, and economy will be served and enhanced when hospital care is provided as freely and under as acceptable conditions for incipient and recent cases of insanity as for various other physical ills. Aversion and objection to such innovation as a psychopathic or psychiatric ward or annex in a general hospital is general and widespread, notwithstanding the fact that it was first successfully tried more than a hundred years ago and has been carried out in a most satisfactory way in recent times. It is a reproach to the medical profession that this attitude is assumed in a final and positive way without taking into account the great good that could be accomplished without sacrifice of the comfort of other classes of patients and without the addition of more care and responsibility than would be occasioned by the inclusion of any other classes of cases, whether lying-in, tuberculous, or what not. There would be abundant justification for giving over a suitably equipped wing to the care of the insane if nothing more were accomplished than the training of nurses and internes. Such training would enable physicians to recognize oncoming mental troubles, and would make it possible to secure the services of nurses who would be of use, rather than a hindrance as is so obviously true now with the general hospital trained nurse. It is in the period of the earliest deviation from the patient's normal that something really worth while can be done in the way of treatment. Under present conditions no patient is ready for hospital treatment, in the eyes of the family, until home care has become impossible. Aside from the fact that much valuable time is lost, the patient is very often drugged in order to keep him at home until the true features of the illness are quite beclouded. Even those cases that cannot be benefited by hospital care ought to be placed under observation for a sufficient length of time to determine, if possible, whether or not they are likely to be a menace to themselves or to the community. I am sure that much could be gained if every hospital interne could have a period of service in the observation of insane cases, and that psychopathic wards as readily accessible as surgical wards would abort many cases of threatened mental illness and would save tragedies that are of almost daily record in the press.

DR. MAX MAILHOUSE (New Haven): Dr. Terhune has covered so much ground and brought out so many features of major importance that we cannot in the discussion touch upon more than a very few of them. He truly says that this must be a matter of education, and of public education just as well as a matter for State Boards of Health. It took a long while to educate the public in health matters, and now that they are demanding so much of the medical profession, it will be the

same with mental hygiene. The day will come when the demands upon us will become even more onerous. It is important that the State Hospitals should continue to have oversight of their discharged patients; they should be watched and not be left so much liberty; it is a matter of common knowledge that a physician in New York was killed by a paroled patient. The State Boards should have a list of all such cases and they should be kept under constant supervision,—just as disease carriers and germ carriers are now beginning to be watched.

The matter of psychiatric pavilions in general hospitals is a matter that we have been talking about for a number of years, but we are still far from a realization of any material development on this subject. Psychiatric clinics or wards in general hospitals should bear the same relation to the hospitals for the insane that out-patient departments or dispensaries of hospitals bear to the hospitals. There ought to be places where early and mild cases can be received and observed and later on if necessary be referred to their proper sphere.

A point of considerable importance is the question of the potential and incipient insane aliens. The State and Federal Governments in a large measure fail in excluding this class of individuals. It is very easy for them to be received into this country; later they become public charges and it is very difficult to have them sent back to where they belong.

Another matter is that of the mental deviate. The deviates should be discovered and uncovered in the public schools, and once uncovered should be followed up and not allowed to become public charges.

DR. R. L. LEAK (Middletown): During the reading and discussion of Dr. Terhune's paper I was somewhat impressed of the necessity of getting these mental cases under proper care early. In Connecticut, unfortunately, the police officer has more to do with the early handling of these cases than the physician, and this creates a false impression in the mind of the patient, which it is frequently difficult to overcome: namely, the feeling that they are under arrest and treated as a criminal usually is, rather than being treated in the way that a sick person should be treated.

The fear that many people have of a person who has been called insane is unnecessary, for, as a rule, they are no more dangerous than anyone else when properly handled. It would therefore seem advisable to carry out the suggestion of Dr. Terhune's paper so that we have these patients under the observation of medical men entirely up until the time of their admission to the hospital.

There is another point that perhaps all physicians are not familiar with, and that is the voluntary commitment. By the use of this method it is not necessary to wait the process of the law in order to have a patient admitted to the institution. It is always best to be perfectly frank with the patient and explain to him his needs and the necessity of immediate hospital treatment, and if this is done you will usually find

the patient willing to take your advice and be admitted voluntarily. In order to be admitted voluntarily the patient must sign a statement to the effect that he wishes to be admitted as a voluntary patient and will abide by the rules and regulations of the hospital and give ten days' notice to the hospital authorities in writing before leaving without the consent of the superintendent.

The earlier these patients can be placed under proper care the better, for it is frequently found that a considerable number of them could be restored, whereas when they are kept at home, or under unfavorable surroundings too long a time, their mental symptoms become chronic.

DR. THOMPSON: Two years ago we received at the Retreat 342 persons; of these seventy-five were alcoholic. Of the entire number more than 300 were voluntary. That emphasizes what Dr. Leake has said. Only twenty-seven cases were actually committed by the Court.

DR. W. B. TERHUNE: The reason for bringing this matter before you this afternoon is that in the last two months there has been some discussion in state circles about establishing a State Mental Hygiene supervising body as part of the state government. I simply wished to outline the advantage of such a procedure.

X-Ray Intra-Abdominal Diagnosis by the Oxygen Inflation Method.

L. F. WHEATLEY, M.D., New Haven.

This method of Roentgen Ray examination of the abdominal parenchymatous organs, after gas inflation, is based on the fact that air or gas intensifies the shadows of soft parts producing more contrast and thus bringing out more detail than can be obtained by any other method. It is the application of this same principle which we daily utilize in chest and sinus examinations where fine detail and minute alteration in structure can be obtained through contrast with the air contained therein.

It is not an entirely new procedure, although it has not been utilized to any extent for intra-abdominal diagnoses until within the past year. The credit for the original idea should be given to Kelling, who employed it in 1902 as an aid in diagnosing a case of ascites and a carcinoma of the stomach. In 1910 and 1911 Jacobus of Stockholm emphasized the safety of the abdominal puncture on the basis of over twenty experiments on cadavers in which the trocar was pushed through the abdominal wall and reached the peritoneal cavity invariably without damaging the viscera.

Webber in 1912 first applied this method to the roentgenologic technic and conceived the idea that sterile air or oxygen introduced within the abdominal cavity might help to render visible a number of organs and regions which hitherto were considered somewhat inaccessible to satisfactory Roentgen examination.

Experiments on animals and fresh cadavers confirmed his theory. His roentgenogram showed that the following viscera and areas may be rendered visible by means of gas inflation: liver and spleen as a whole, gall bladder region, kidneys, subphrenic space, coils of intestine without bismuth filling, bladder filled with urine and intra-abdominal tumors.

In 1914 Doctor's W. H. Stewart and Luckett demonstrated roentgenographically the ventricles of the brain in a case of frac-

ture of the skull where air had entered the interior. This fact was taken advantage of by Dandy of Baltimore, who injected air into the cerebral ventricles and who describes the method as invaluable in the diagnosis of internal hydrocephalus and other intra-cranial conditions. This injection of air into the ventricles had no injurious effects on 20 children between the ages of 6 months and 12 years.

Within the past year W. H. Stewart of New York has developed the method more intensively, and elaborated an improved technic. At a meeting of the American Roentgen Ray Society in January, he demonstrated the diaphragm completely separated from the liver which showed a detail not hitherto considered possible. The spleen with its pedicle, the kidneys, pelvic conditions, and intra-peritoneal adhesions, especially those involving the anterior abdominal wall. He thus demonstrated that this method opened up a new field for investigations of the parenchymatous abdominal organs.

The technic is very simple and is practically a paracentesis. The point of election is usually about an inch below and to the left of the umbilicus. This point was selected because the inflation appeared to be more satisfactorily accomplished here than elsewhere. It was purely arbitrary there being no reason why it should not be done elsewhere if there are special contraindications such as adhesions or abdominal scar or tumor mass. While the deep epigastric artery and vein course in this vicinity, the dangers to these vessels was thought to be negligible as the vessel walls, unless confined, would tend to roll from under a needle point, and even if they resisted, the presence of a stylet in the lumbar puncture needle employed, would prevent any serious damage being done. The intestinal tract is thoroughly emptied, the patient lies on his back, and strict surgical asepsis is observed in the entire procedure. The area to be punctured is anaesthetized with novocain and the puncture accomplished. This should be done gradually and the process halted at the transversalis fascia and then one more thrust made into the abdominal cavity. Oxygen from the ordinary oxygen tank is used, passing through sterile water in the wash bottle, which aids in determining



Showing clear edge of liver, spleen and kidney.



Demonstrating exposure of subdiaphragmatic space.



Cystic gall-badder, result of stricture of cystic duct. No symptoms suggesting this lesion.



Large tumor mass extending on both sides of lumbar spine, also coils of small intestine.

the rate of delivery of the gas and through sterile rubber tube connections to the needle. The degree of inflation is determined by the amount of distention of the abdomen and the comfort of the patient, and is terminated when the patient complains of a sense of fullness and the abdomen is moderately distended. As a rule two or three litres of oxygen can be introduced without discomfort. This of course varies with the distensibility and relaxation of the abdominal wall. The oxygen is gradually absorbed, disappearing almost completely in 24 to 48 hours. If there is much discomfort, the needle can be re-introduced after the exposures have been made, into the original puncture hole, without discomfort, as the anaesthetized area still remains and the excess of air can be let out. Carbondioxide has been used on account of its rapid absorbability, but it is felt to be too rapidly absorbed to permit of a thorough examination.

This procedure necessarily stands or falls on the safety of the peritoneal inflation with the oxygen. Bainbridge of New York has used oxygen intra-abdominally therapeutically with uniformly good results in 145 reported cases and Goodwin in England on a basis of four years favorable experience has recommended this procedure during and following abdominal operations. Far from being injurious it has been found to lessen postoperative shock and nausea and vomiting. It is unirritating to the peritoneum and abdominal organs.

Regarding the danger of puncturing the intestines, Jacobus of Stockholm punctured 20 cadavers experimentally and found invariably that the viscera were uninjured. Stewart says that experience has proven that the intestines recoil from the prick of the needle and escape injury providing that caution is used and the needle advanced slowly. In 500 cases now reported, no untoward results have been encountered. In the few cases which we have done at Grace Hospital, we have seen no unfavorable results. The slight sense of fullness has usually disappeared completely in 24 hours, more often in 3 to 4 hours. This method is not one to be used routinely for general abdominal diagnosis, but where more light is desired on the parenchymatous organs than can be determined by ordinary physical examinations and

where there are no definite contra-indications to its use, one is warranted in employing this method.

In conclusion, this method demonstrates that abdominal viscera and regions hitherto considered inaccessible to satisfactory X-Ray examinations may now be visualized; that pathological conditions such as carcinoma, cirrhosis or marked enlargement of the liver, subphrenic abscess, tumors of spleen, kidneys, intestines or pelvic organs, can be demonstrated; that it appears a perfectly safe procedure in properly selected cases; that it does not replace the opaque meal examination of the gastro-intestinal tract, but enhances the contrast in cases of suspected tumor mass.

This method renders available to the diagnostician additional and valuable information of which he may advantageously avail himself before resorting to exploratory laparotomy, and offers a means of shedding additional light on obscure conditions.

DISCUSSION.

DR. A. J. MENDILLO (New Haven): It has been a pleasure as attending surgeon at the hospital and associated with Dr. Wheatley to follow up this work, and I have coöperated with him in several of these cases. I was disappointed that the pictures did not show up better. The pictures at the hospital are very illuminating and very clear. The differentiation of chronic conditions,—not so much the acute ones,—has been very much helped. It is advisable for the surgeon to coöperate with the Roentgenologist as well as with the pathologist and other laboratory workers. It is well for the surgeon to plan in advance before operating on an obscure abdominal condition so as to know where best to make the incision and to get the best results with the least injury to the patient. In many of these conditions the gas inflation has been of great value. We have differentiated cases of bowel adhesions against tumor formations. In some instances we have been able to assure our patients beforehand that the condition was benign and could be cured, and we have confirmed this by results on the operating table. It is one of the fields in which surgery and Roentgenology should coöperate more. I don't like exploratory laparotomy. It doesn't sound well, although in some instances we are compelled to do it. So far as paracentesis of the abdominal wall is concerned, we have not had any injuries. In cases of ascites and conditions of the portal vein, we have in two cases aspirated, and afterwards inflated through same needle and got our picture and made the diagnosis.

In regard to personal investigation, Dr. Stewart has told us of how

they feel after gas inflation. Most of the patients are pre-operative cases. Dr. Stewart was an ambulatory case and tried to walk home afterward, and had some very disagreeable feelings. In gas inflation I have found that in kidney cases it may affect the closure of the wound as the colon pushes out of the wound. In cases without pus formation and perenteritis, it is advisable to aspirate the gas from the peritoneum so as to facilitate operating. It does tend to diminish postoperative shock. Recent observers report that gas inflation through the cervical canal may determine the patency of diseased fallopian tubes and in many instances save unnecessary operation, or vice versa where tubes are shown to be adherent and closed decide for an operation. In cases of inflation of the bladder, we have not done anything yet, but I think it may help to determine the presence of a large prostate and give better differentiation than a mere flat plate.

Remarks on Infectious Jaundice.

GEORGE BLUMER, M.D., New Haven.

My interest in infectious jaundice in Connecticut was aroused by the occurrence of a small outbreak in 1914, mainly among college students. It was reawakened by the following recent cases.

Case I. A nurse, age 26, was admitted to the New Haven Hospital, October 4, 1919, with nausea, headache and jaundice.

The family history was negative.

The past history was without significance except that the patient had never had a good appetite and her stomach had always been easily upset by indiscretions in diet. She had never been jaundiced before the present illness.

The patient stated that she had been feeling tired since August 1st, 1919, and this feeling had been progressively increasing. On September 25th she felt very weak and faint, was noted to be pale, and was relieved from duty. Her temperature at this time was normal and she went back to work September 26th, still feeling somewhat shaky and tired. September 30th, she felt very tired all day and had a temperature of 101° at night. During all this period she had marked anorexia. The sight of food nauseated her and she vomited after eating, on two or three occasions. On October 4th, the nausea was worse and a fellow nurse noticed that she was jaundiced. She was then admitted to the ward and stated that, in addition to the symptoms described, she had had some dyspnea on exertion, that her bowels had been quite regular except on one or two days and that her vision had been somewhat blurred.

Examination on entrance showed a slight but definite jaundice which became quite intense after a few days. There was no fever during her stay in the hospital and the pulse was never below seventy, and usually between seventy and eighty. The tongue was moderately heavily coated, and the liver, on admission, was just palpable. The spleen was never palpable. Subsequently the liver could be felt 3 cm. below the costal margin, smooth, with moderate generalized tenderness. There was no leukocytosis, the leukocyte count being 6800, of which 70 per cent were polynuclears, 28 per cent lymphocytes, 1 per cent eosinophils, and 1 per cent myelocytes. The urine contained a very slight trace of albumin, a marked test for bile and a few leukocytes and red blood cells, but no casts. The patient was finally discharged on the 16th of October, feeling well but still slightly jaundiced.

On the 13th of October a catheterized specimen of urine was examined by the bacteriological department for spirochete, but was entirely negative.

Case II. On October 19th, 1919, R. C., another nurse, age 24, who had nursed Case I, was admitted to the ward with pain in the back.

There was nothing of note in the family history.

The patient had had two attacks of nausea, vomiting and fever, with pain in the back, one following a fall downstairs at the age of 14, and one following a fall from a horse at the age of 16, but she had never been jaundiced.

The present illness began October 19th with fever and pain between the shoulders, present on wakening, which was ascribed to lifting a heavy patient on the previous day. The pain was dull and constant. The patient felt nauseated and after drinking a cup of coffee immediately vomited. Later in the day the pain became sharper. It was localized in the small of the back and on both sides of the abdomen. It did not radiate into the extremities and was not associated with respiration. Bending over increased the pain. About noon of the day of the onset the patient felt very chilly and later became hot and feverish. At this time the temperature was 102.2° . At 4 P. M. she vomited once more, and complained of feeling nauseated. There was slight headache after going to bed. The fever persisted through the 19th and 20th of October, never going above 102° , after which time it fell below normal and remained subnormal until October 31st. The pulse during the febrile period did not go above 110 and subsequently it was never below seventy. On October 23d, four days after the onset of the illness it was noted that the patient's sclerae and skin were slightly jaundiced. The liver was felt at the costal margin but the spleen could not be felt. On October 25th, the patient was still nauseated and occasionally vomited, and the jaundice was intense. On October 29th, the jaundice was clearing and the patient felt well. On November 2d, the jaundice had entirely disappeared, the appetite was very good, and the patient was discharged. In this case also there was no leukocytosis, the leukocyte count on admission being 5920. The urine at first contained very small traces of albumin, an abundance of bile, a few leukocytes and epithelial cells, but no casts.

An examination of both blood and urine was made by the bacteriological department using dark field illumination, cultural methods, and rat inoculation. No spirochetes were found.

Case III. A colored waiter, born in the West Indies, single, and forty-eight years of age, was admitted to the New Haven Hospital on the 16th of February, 1920, complaining of vomiting.

The family history was negative.

The past history contained nothing of particular significance. The patient had never been addicted to the use of alcohol, and aside from two attacks of Neisserian infection at eighteen and twenty-eight had always been well. He had never had gastro-intestinal disturbances and had never been jaundiced.

The present illness began February 7th, 1920, with a chill, fever, pain in the joints and back, marked prostration, and headache. The friends of the patient stated that he had had chills since, and that on one occasion they found him crawling on the floor of his room looking for imaginary objects. They also stated that whereas he had previously been gay, talkative, and mentally alert, he had since his illness been dull, stuporous, and irritable. Since February 14th, the patient had vomited a number of times. The appetite had been poor and the bowel movements had become loose and more frequent than normal, although not accompanied by any pain. The pain in the joints and back disappeared after a few days, but the patient complained of feeling weak.

Examination showed a marked jaundice of the conjunctivae; the tongue moist and slightly coated; the pulse very small, weak, and compressible. The blood pressure was 108 systolic, the diastolic pressure was not obtainable. The examination of the lungs was negative. The heart sounds were feeble and the muscular element in the first sound was less intense than normal. The abdomen was not distended. It was soft and not sensitive. The liver dullness extended from the sixth rib to a finger's breadth above the costal margin in the right mammillary line. The edge of the liver could not be felt. The spleen was not palpable. The temperature on admission was F. 97° and remained subnormal until death, being as low as F. 95° the day of death.

The patient gradually became weaker and more apathetic. The jaundice became somewhat more intense, the circulatory asthenia was exceedingly marked, and the patient's mental processes were distinctly abnormal, a condition of euphoria being present. There was little change in the physical examination. The liver dullness remained about the same. The spleen did not become palpable. The patient emaciated progressively and finally died on the 25th of February, eighteen days after the onset of the illness.

The laboratory findings were not without interest. There was a pronounced leukocytosis throughout, the highest count being 38,000 leukocytes, of which 86 per cent were polynuclears, and 14 per cent mononuclears. The feces were completely acholic. The urine contained the slightest possible trace of albumin, considerable quantities of bile and urobilin, and occasional leukocytes and granular casts. No leucin or tyrosin were found. The Wassermann reaction was three plus with alcoholic, and four plus with cholesterinized antigen. The patient's serum failed to agglutinate any organism of the typhoid group. The chemical examination of the blood showed a blood sugar of 187.5 milligrams, a blood urea of 183 milligrams, and a blood nitrogen of 232 milligrams.

The autopsy showed bile stasis in a liver slightly decreased in size with a few small areas of cell necrosis histologically. There were no evidences of syphilis. Attempts to isolate spirochaete were negative both

during life and after death. The bile was sterile. There was a terminal bronchopneumonia due to streptococcus mucosus, and streptococcus non-hemolyticus was isolated from the blood.

These cases will serve as a text on which to base a discussion of certain aspects of jaundice in the light of recent additions to our knowledge of the subject. It is necessary as a preliminary to such a discussion to define the field to be considered as the term "jaundice" is used both to describe a symptom and to denote certain symptom complexes. The cases recorded above obviously suggest an infectious condition and logically fall under the head of "infectious jaundice." It is this condition and its relationships to the "catarrhal jaundice" and "acute yellow atrophy" group of cases that is to be discussed.

Jaundice, using the term in the sense of a symptom complex, has usually been described in the past as falling into one of two main groups. These are: first, catarrhal jaundice, and second, infectious jaundice. Under the latter head there have been included two conditions, namely: Weil's disease and epidemic catarrhal jaundice.

It will be in the interest of clearness if we briefly define the different varieties of jaundice and, for purposes of comparison, discuss their characteristics.

The term *catarrhal jaundice* has been applied to the sporadic form well known to all practitioners and generally assumed to be associated with the extension of a catarrhal gastro-duodenitis to the larger bile ducts.

Weil's disease is an infectious form of jaundice described by Weil of Heidelberg in 1886 as a new and interesting disease, but which had been described by French clinicians as infectious jaundice long before Weil's article was written.

Epidemic catarrhal jaundice is a term which has been applied to a type of presumably infectious jaundice which occurs in endemic or epidemic form and is assumed to symptomatically resemble catarrhal jaundice rather than Weil's disease.

The outstanding characteristics of *catarrhal jaundice* are well known to all of you. The disease is usually insidious in onset, at times beginning with dyspeptic symptoms and uneasy sensations

in the region of the liver, and occasionally associated at the onset with fever. Frequently both the dyspeptic symptoms and the fever are absent and the jaundice is the first evidence of the disease. Drowsiness, a slow pulse, bile in the urine, and itching of the skin are not infrequent. The liver is frequently and the spleen occasionally enlarged.

Weil describes the *infectious type of jaundice* which bears his name as an acute febrile condition with severe nervous manifestations, swelling of the liver and spleen, icterus and nephritic symptoms, which after a severe course of moderately short duration suddenly takes a favorable turn.

Epidemic catarrhal jaundice appears in two types, one resembling sporadic catarrhal jaundice in which the constitutional symptoms are trifling, fever is frequently absent, and jaundice is the outstanding and almost the only sign of the disease; the other a much more severe type resembling Weil's disease in which the icterus is preceded by a prodromal stage of several days characterized by malaise, headache, muscular pain and tenderness, gastro-intestinal disturbances and fever. In this type the liver and spleen are enlarged and tender, there is drowsiness, constipation, more or less acholic stools, bile in the urine, and prostration. Relapses occasionally occur.

Before comparing the clinical manifestations of these different types of jaundice, I would invite your attention to two other conditions in which jaundice is a prominent feature, namely spirochetosis icterohemorrhagica, and acute yellow atrophy of the liver.

Spirochetosis icterohemorrhagica is a disease which is most common in Japan but which has been described in other parts of the world, notably along the Mediterranean littoral and in France. It usually begins suddenly with a chill or high fever and presents three stages: a febrile stage lasting from one to seven days and accompanied by gastro-intestinal disturbances, headache and general muscular pain; a stage of jaundice lasting from eight to thirteen days in which epistaxis, prostration and delirium are frequent; and a stage of convalescence lasting about two weeks and not infrequently interrupted by a relapse.

Acute yellow atrophy of the liver is a condition in which there is

an initial stage of gastro-intestinal catarrh and jaundice which at first is thought to be ordinary catarrhal icterus. After an interval lasting from a few days to several weeks, headache with pronounced gastro-intestinal disturbances, delirium, muscular tremor and hemorrhagic manifestations appear. The jaundice increases, coma sets in, and finally death supervenes in most cases. The disease may run either a febrile or an afebrile course.

An unprejudiced observer reading these brief descriptions could hardly fail to be impressed by the striking similarity in the clinical pictures. All the conditions mentioned may have a febrile onset, in all jaundice is usually a prominent feature, all present manifestations of general toxemia of varying intensity, in all nervous manifestations are more or less prominent, all tend to run a set course ending either in recovery or death. It must be borne in mind that a written description of a disease is a composite picture, in other words, an average picture. When we come to study the histories of patients with these various types of jaundice and get a clearer idea of the range of the symptomatology, it becomes very evident that from the purely clinical point of view it is not possible to draw hard and fast lines between the different types. This is best illustrated by the individual histories in outbreaks of epidemic catarrhal jaundice. It is noteworthy that in some of these outbreaks cases of all degrees of intensity may be found; some afebrile cases in which jaundice is the outstanding feature and which resemble ordinary sporadic catarrhal jaundice; some cases characterized by pronounced fever, marked constitutional symptoms and delayed jaundice similar symptomatically to the so-called Weil's disease; finally cases which terminate fatally with a clinical picture which is indistinguishable from that of icterus gravis or acute yellow atrophy.

If it is taken for granted that it is impossible to sharply separate the different types of jaundice symptom-complex by clinical means alone, it is natural to ask whether they may not be differentiated by pathological or bacteriological examination.

Patients so seldom die of ordinary catarrhal jaundice that our conceptions of the pathology of this disease are based on extremely slender evidence. It has been assumed, in my opinion on

entirely insufficient grounds, that this condition is associated with stoppage of the main biliary passages by inspissated bile or by swelling of the mucosa. In view of recent experimental and other evidence on the nature of jaundice one may well be sceptical as regards the probability of this pathogenesis.

The pathology of Weil's disease presents nothing pathognomonic. Evidences of bile stasis are usually present and in addition liver necroses similar in type if not in intensity to those which characterize acute yellow atrophy may occur.

The pathological picture so long described as characteristic of acute yellow atrophy can be produced by a variety of toxic substances, notably by phosphorus and chloroform, and perhaps also by arsenic. The livers of some patients who have died with the clinical manifestations of acute yellow atrophy have been known to almost entirely fail to show the characteristic changes.

One can only conclude that the interpretation of the pathology of this group of diseases is in just as confused a condition as the question of their clinical classification. One point of great importance is to be noted in this connection, namely, that in many instances organs other than the liver show pronounced changes.

When we come to consider the jaundice group from an etiological standpoint we do find at least a few islands of firm ground. In the case of spirochetosis icterohemorrhagica we are dealing with a clearcut specific infection. The organism concerned has been repeatedly isolated not only by the Japanese observers who first described it but also by Dawson and Hume of the British Army, and by Italian and French bacteriologists. The same organism has been found in this country as an inhabitant of the rat by Noguchi, Jobling and others. It has been assumed by some writers, notably by Inada and his pupils, that Weil's disease and spirochetosis icterohemorrhagica are identical. This conclusion is, I believe, entirely unwarranted. The recent report of Symmers on a local outbreak of severe icterus in New York City in which the clinical features were those of the Weil type shows that this picture is not necessarily associated with spirochetes. The older reports associating this type of icterus with organisms of the proteus group are, we think, decidedly open to objection on the

ground that the proteus group are ubiquitous and well known putrefactive organisms.

It seems clear that a type of infectious jaundice may be produced by organisms of the typhoid group, notably by paratyphoid B. Such cases have been described at length by numerous French observers and by British and American clinicians working with the Expeditionary Forces in France. The clinical picture produced in these cases shows many of the features of typhoid fever and should be easily distinguishable from the other types described here.

Finally, many cases of the severer forms of jaundice have been bacteriologically investigated with negative results, and this has been true even in fatal cases examined at autopsy. The recent experiences of Symmers indicate that this is due to the fact that the cases were not investigated in the light of the newer discoveries, i. e., a possible spirochetal origin.

It would seem that the time had arrived to restudy the diseases grouped under the head of jaundice including the sporadic and admittedly infectious types and acute yellow atrophy. The suggestion that there is a relationship between these conditions is not a new one. Osler, Cockayne, Gwyn and several other writers have touched on the idea. In such a study there are certain aspects of the situation which need emphasis.

1. Mainly because of the spectacular quality of jaundice as a symptom too much attention has been paid in the past to the liver pathology. The assumption that changes in the liver and bile passages are mainly concerned in the production of the various clinical pictures associated with jaundice has dominated the practising profession. While this has been less true on the pathological side it is nevertheless a fact that pathologists have not sufficiently emphasized the viewpoint that the liver changes are but part of a general process and that these changes are in some instances insufficient to account for the death of the patient.

2. More information is needed as to the seasonal incidence of ordinary catarrhal jaundice and of the relation of sporadic cases of this disease to one another. There is some evidence from German Army and Japanese Naval statistics that sporadic

catarrhal jaundice does show a seasonal incidence, similar to that shown by the epidemic form. Largely because of its non-fatal character we know very little about the seasonal occurrence of catarrhal jaundice under the ordinary conditions of civil life.

3. We need much more careful etiological studies of all cases of jaundice. One definite group of cases has been isolated by Inada and his associates in spirochetosis icterohemorrhagica. It has been made clear already that spirochetes are not responsible for all of the severe types of infectious icterus. Epidemiologically the history of icterus resembles in some important particulars the history of poliomyelitis and I would suggest that all cases of ordinary catarrhal jaundice should be regarded as infectious. We can all recall the time when poliomyelitis was not regarded as an infectious disease, indeed, it was not until long after endemic outbreaks had been recorded that it was so regarded. Endemic outbreaks of jaundice have been noted in this country since the War of 1812. I have found reports of twenty-six definite outbreaks in the United States and Canada and incidental references to many others. This number does not include the numerous outbreaks among troops which occurred during the Civil War. Furthermore there is some evidence very suggestive of invasion through the naso-pharynx in jaundice and it is not at all impossible that certain types are due to a virus of the filter-passing type rather than to bacterial infection. This may account for the failure to isolate organisms in many instances.

4. I would emphasize the idea that all the conditions discussed in this article represent, from the pathological viewpoint, merely different degrees of reaction to a variety of toxic substances either chemical or bacterial, the character of the reaction depending in part on peculiarities in the poison, in part on peculiarities in the individual. In these reactions jaundice stands out, on account of its spectacular features, but it may be absent, just as paralysis may be absent in poliomyelitis, and the toxemia does not affect the liver alone but involves other organs of the body.

In conclusion I would point out that no attempt has been made in this paper to go into minute details as to the symptomatology or pathology of the conditions discussed. This would be for-

eign to the purpose of the discussion, the main object of which is to point out the necessity for restudying the subject. My conception may be erroneous but if it leads to the result desired it will have accomplished a useful purpose.

DR. WALTER R. STEINER (Hartford): Dr. Blumer has presented to us some very timely remarks on infectious jaundice. We have been collecting facts upon this type of jaundice certainly since the time of Cleghorn, who reported an epidemic of this malady, upon the Island of Minorca, in 1740 and possibly, if we accept Cockayne's evidence, since the time of Hippocrates. But we need to correlate our knowledge and add more to it before we can come to any satisfactory state concerning this disease and no one is more cognizant of this fact than those who have worked on this field as Drs. Osler, Geoyne, Blumer and others have done.

Of course literally we mean by infectious jaundice a morbid condition caused by the invasion and growth of pathogenic microbes within the body, and, as the word microbe implies, it may be either of an animal or vegetable nature. Some years ago I was called to see a patient who presented symptoms of Hepatic Intermittent Fever. She had had a chill, followed by fever, vomiting and sweating, which in turn was followed by an intense jaundice. Although I considered the case as one of Charcot's Hepatic Intermittent Fever yet I made a careful blood examination as a routine and discovered a number of malarial organisms of the tertian variety, so that under quinine she made a good recovery and has had no attacks since. This, then, is an example of infectious jaundice due to an animal parasite and Allport has reported some interesting instances of this variety while acting as Major in some of the British hospitals in Salonika. Generally, however, the term infectious jaundice is used to designate a condition of vegetable origin and this variety is frequently subdivided into the bacillary and spirochaetal types. Unfortunately, I have not seen cases of jaundice recently which could be placed in either of these types although twelve years ago I had a patient with jaundice whose husband had had a similar disease two weeks previously. The initial symptom in her case was a severe sore throat.

In a study of the literature, however, I have come to an opposite impression from Dr. Blumer as the cases of Weil's Disease seem to me similar to those caused by the spirochaeta ictero-hemorrhagiae, Symmer's cases notwithstanding. To definitely prove it of course more knowledge is essential. The blood of all cases of infectious jaundice should be carefully examined by blood film, by dark field illumination and by intra-

peritoneal inoculation into the cavity of a guinea pig to discover the presence of these spirochaetes; (2) the urine should be microscopically examined for the spirochaetes, although such a diagnosis of this spirochaete requires the services of an expert as the urine contains spirochaetes in a variety of conditions, and the urinary sediment should be inoculated into the peritoneal cavity of a guinea pig, and finally, (3) tissues should be examined at necropsy by the Levaditi method for the detection of spirochaetes. Dr. Blumer's suggestion to consider all cases of catarrhal jaundice as infectious seems to me to be an admirable one.

DR. CHARLES W. GARDNER (Bridgeport): Dr. Blumer has given us the essentials and a useful working classification of infectious jaundice. His comprehensive summary of the subject prohibits worth-while additions. I would, however, like to mention two or three points that seem to me of particular importance.

The occurrence of acute catarrhal jaundice appears to be on the increase and this, with the knowledge that our own native rodents harbor spirochaetes, should be an incentive to keep the infectious types in mind, when confronted with cases of icterus. While the majority of cases of jaundice encountered in practice will continue to fall into the four common groups, simple catarrhal, gall stones, cirrhosis or malignant disease, the infectious types must be considered among the possibilities in differential diagnosis.

Another fact, that seems to me of noteworthy significance, is the observation of variations in the virulence of the infection and the consequent variety of clinical pictures noted in different localities. Japanese observers record the combination of icterus and hemorrhages sufficiently often to designate the disease as ictero-hemorrhagica. Among the British troops, the infection was much less severe than that described in Japan, not over sixty per cent of the cases having jaundice. In France, the hemorrhagic form was less frequently seen than in Japan. Again in New York, Symmers observed an outbreak in which hemorrhage was the outspoken feature. His cases appear to be due to toxins not yet identified. The factors operative in these variations require further study. As Dr. Blumer said, we need additional information concerning the influence of seasons on the ordinary catarrhal and the relation of sporadic diseases to one another. Meteorological influences have appeared to play a part in the etiology of epidemics.

Dr. Blumer's suggestion that the ordinary catarrhal jaundice may well be regarded as infectious is worthy of emphasis. This view best explains the occurrence of epidemics. In the light of our present knowledge, we have some justification in concluding that the reported epidemics from the War of 1812 down, excluding those cases obviously due to or associated with other diseases, have been caused by infectious organisms, possibly of the spirochaetal type.

Further study is indicated from the pathological point. An extension of our knowledge does not appear probable, from the clinical side, since the clinical picture of the different types is similar, varying only in degree. From the paper, one gathers that the infectious types of jaundice are closely related pathologically. Future studies may permit the grouping of all types into one group. While jaundice is the conspicuous sign clinically and the liver changes, pathologically, the infection is general, the reaction produced depending upon many factors. These changes appear not infrequently, as Dr. Blumer has brought out, insufficient to cause death. This fact brings up the desirability of a further application of chemical pathology to clinical problems. Chemical changes from altered metabolism may be a factor responsible for death in these cases. Concluding, I would say that Dr. Blumer's paper awakens interest in the subject of infectious jaundice and he has opened up new lines of thought for future investigation.

DR. BLUMER: The view that has been prevalent lately is that the ultimate mechanism in all varieties of jaundice is about the same. There are no sharp lines of demarcation to be drawn. The explanation of the absence of bile in the intestine in the absence of any complete mechanical obstruction is that in such cases the physical quality of the bile is changed. It becomes so viscid that it will no longer flow through the ducts. It is difficult to prove that this is the mechanism in jaundice in human beings because patients with catarrhal jaundice are practically never operated upon and in the few who come to autopsy the conditions are not the same as those present during life. Experimentally it is possible to show that obstruction is not necessary to prevent the outflow of bile, but that changes in the consistency of the bile itself may produce such a result.

Since I wrote this paper I have been consulted by a physician with ordinary catarrhal jaundice, and I got a very interesting history. I give it for what it is worth. This physician was taken sick with jaundice two or three weeks after his newborn baby had died of infantile jaundice. The baby was healthy at birth and died of jaundice, and he was taken sick in two or three weeks. During the prodromal period of his sickness, he attended a patient in labor, and in a few weeks that patient was also taken sick and developed jaundice,—apparently an ordinary catarrhal jaundice. It seems probable that if we consider ordinary catarrhal jaundice as infectious and begin to question jaundiced patients more closely about their contacts we may find many more cases of this kind.

In some of the fatal cases the lack of changes sufficient to account for death is very striking. In the case of the colored man who died in the hospital we had a clinical pathological conference on the case and the pathologists had to acknowledge that they did not know what killed the

man. He had a few small areas of necrosis in the liver, but practically nothing else was found to account for the death.

I think Dr. Gardner's suggestion that we should make more careful clinical studies is very important. I did not go into the details of the history but the fact that this third fatal case of the negro man showed some very pronounced changes in the chemistry of the blood, etc., the blood nitrogen and blood urea being enormously increased, indicated that there was some very profound metabolic disturbance going on in the man's system.

PROGRAMS OF COUNTY
MEETINGS.

Programs of County Meetings.

FALL (SEMI-ANNUAL) MEETINGS.

FAIRFIELD COUNTY.

Hotel Davenport, Stamford, October 14, 1919.

VICE PRESIDENT'S ADDRESS:

Observations on Ectopic Pregnancy. Dr. Eli B. Ives.

PAPERS:

Tuberculosis of the Kidney. Dr. Henry Dawson Furniss, New York.
Some Observations on Vaccine Therapy. Dr. Bruce S. Weaver,
Stamford.

HARTFORD COUNTY.

Hunt Memorial Building, Hartford, October 28, 1919.

PAPERS:

Vomiting of Pregnancy. Dr. James R. Miller.
Operative Treatment of Deformities following Infantile Paralysis with
Cases. Dr. Joseph F. O'Brien.
Goiter. Review of Operative Cases. Dr. Alfred M. Rowley.
Topic of Medical Interest. Dr. Arthur Freeborn Chace, New York.

LITCHFIELD COUNTY.

Winona Camp, Bantam Lake, October 7, 1919.

PAPERS:

Internal Secretions. Dr. William R. Miller, Hartford.
Fractures. Dr. Robert M. Yergason, Hartford.
Case History. Dr. Charles H. Turkington, Litchfield.

MIDDLESEX COUNTY.

Chafee Hotel, Middletown, October 9, 1919.

(In Conjunction with the October Meeting of the Central Medical
Association.)

PAPERS:

The Interpretation of X-Ray Examinations in Gastric Surgery. Dr.
Edward R. Lampson, Hartford.
Report on the Mortality of Appendicitis in Middlesex Hospital since
its Organization. Dr. J. E. Loveland.

NEW HAVEN COUNTY.

Gaylord Farm Sanatorium, Wallingford, October 1, 1919.

PRESIDENT'S ADDRESS:

Dr. David R. Lyman, Wallingford.

The X-Ray Diagnosis of Pulmonary Tuberculosis. (Illustrated with lantern slides.) Dr. L. F. Wheatley, New Haven.

The Differential Diagnosis of Lung Conditions Usually Confounded with Tuberculosis. Dr. E. R. Baldwin, Saranac Lake.

Concerning Heliotherapy in Tuberculosis. (Illustrated with moving pictures.) Dr. James B. Dinnan, Meriden. Read by Dr. Stephen J. Maher, New Haven.

Modern Industrial Medicine. (Illustrated with lantern slides.) Dr. Thomas R. Darlington, Former Health Commissioner of New York City.

NEW LONDON COUNTY.

The Backus Hospital, Norwich, October 2, 1919.

PAPERS:

Diagnosis of Some Surgical Conditions of the Urinary Tract. Dr. Thomas H. Hepburn, Hartford.

Development of War Surgery. Dr. H. M. Lee, New London.

TOLLAND COUNTY.

*Mansfield State Training School and Hospital, Mansfield Depot,
October 21, 1919.*

(In Conjunction with the Twelfth Semi-Annual Meeting of the
Connecticut State Medical Society.)

ADDRESS OF WELCOME:

Dr. William L. Higgins.

RESPONSE TO ADDRESS OF WELCOME:

Dr. Charles B. Graves.

PAPERS:

The Care of the Feeble-Minded. Dr. Charles Ten Eyck La Moure.

Some Remarks on the Diagnosis of Mental Defect. Arnold Lucius Gesell, M.D., Ph.D., Yale University.

WINDHAM COUNTY.

Attouwaugan Hotel, Danielson, October 16, 1919.

PAPERS:

Base Hospital Organization. Dr. L. I. Mason.

Notes on Treatment of the Eye. Dr. G. M. Burroughs.

Erysipelas. Dr. A. D. Marsh.

OBITUARIES.

William Bissell, M.D.

By F. H. LEE, M.D.

On July 2d, 1919, Dr. William Bissell passed away after a long life spent in service to his fellow men.

He was born in the town of Litchfield, Conn., March 15th, 1830. He was graduated from the academic department of Yale College in 1853, and from Yale Medical School in 1856. After a few months of practice at Elizabethport, N. J., he returned to the Litchfield Hills, and entered into partnership with Dr. Benjamin Welch, at Lakeville, where he continued to practice through his long life.

On June 26th, 1858, he married Miss Mary G. Biddleman of Bloomsbury, N. J. Four children were born to them, three sons and one daughter. His wife died in 1907, and one son, Edward, in 1897. One son, Dr. Joseph B. Bissell, a prominent surgeon of New York City, died in December, 1918. Another son, Dr. William B. Bissell, survives him, and is practicing at Lakeville. His daughter, Miss May B. Bissell, who was very devoted in the care of her father in his declining years, now lives at the old home.

On three different occasions the people of Lakeville and vicinity gave to Dr. Bissell a public demonstration of their appreciation of his long life spent in the service of the community. In 1912, on the fifty-sixth anniversary of his commencing practice at Lakeville, he was presented with a beautiful testimonial, signed by over 1,300 persons, all of whom had been under his care at some time.

In 1918 "The Dr. William Bissell Fund for Hospital Aid" was incorporated, under the State law, as a permanent memorial. "It is intended that the income from the fund shall be used in securing hospital treatment for residents of Lakeville and Salisbury and in maintaining free beds or rooms for them in some existing hospital."

Dr. Bissell was a member of The Connecticut State Medical Society, and The Litchfield County Medical Association. He was at one time a Trustee of the Connecticut Hospital for the Insane, and a Trustee of the Hotchkiss School at Lakeville. He was a member of the Litchfield County University Club, and often attended the meetings.

Many will remember Dr. Bissell as a skilful, efficient and persevering family physician.

David Crary, M.D.

By GEORGE R. MILLER, M.D.

Dr. David Crary was born in Hartford, April 26th, 1842. He attended the public schools, and at the age of twenty, he entered a drug store in Rutland, Vt., where he remained for three years. During the year 1865 he was employed at the drug store of S. G. Moses & Co., on North Main Street. He afterwards entered Yale College and was graduated from the Medical Department in 1869. He began the practice of medicine with his father after graduation and continued with him for sixteen years—until the senior Dr. Crary retired from practice in 1884.

For many years after he began the practice of medicine in Hartford he was devoted to his profession and rarely relinquished his work for needed rest and recuperation. He built up a large and lucrative practice, in which he was completely absorbed, and appeared to find his greatest pleasure in complete devotion to the interests of his large and constantly increasing clientele. He established himself firmly and securely in the confidence of his patients, to many of whom his advice carried the conviction of law.

Dr. Crary was a careful, thorough, efficient and conscientious practitioner of the old school. He was a wise counsellor, and enjoyed the admiration, respect and esteem of a very large circle of friends and acquaintances.

Socially, Dr. Crary was quiet, modest and unassuming, but he possessed the faculty of endearing himself to those with whom he was on terms of familiarity.

After many years of hard, untiring labor, as he began to feel the weight of years, he spent considerable time in travel through Europe and on the Continent. Since 1900 he made several extended tours in Southern Europe and Egypt and spent several winters in the West Indies and South America.

I had known him intimately in the latter years of his life,

and over our cigars, in the quiet of his home, and in the evening of a long and successful career, he loved to talk of his past experiences, of the difficulties and hardships attending the practice of medicine in the earlier years, contrasting it with the comparative ease and comfort, and modern facilities afforded the young men of the present generation.

He died at his home, in Hartford, after a somewhat protracted illness, on July 9th, 1919.

Edwin A. Down, M.D.

By WHITFIELD N. THOMPSON, M.D.

Dr. Edwin A. Down, a member of this Society since 1891, died suddenly on entering his home at the close of an accustomed day's work December 28th, 1919. If he had had any premonition of illness of any sort it was not known to others.

Dr. Down was born at Utica, N. Y., October 27th, 1856, the son of John Edwin and Marienne La Filleurd Down. His early education was had in the public schools of Utica and the Utica Seminary. He was graduated from the College of Physicians and Surgeons in New York in 1887. He had spent vacation periods of his medical course at the State Hospital for the Insane in Middletown and the way was thus prepared for his appointment to a position on the staff of that hospital immediately on attaining his degree. After a service of four years as assistant physician he was appointed First Assistant on the medical staff of the Hartford Retreat, in which capacity he served from 1891 to 1898, when he resigned to take up the practice of nervous and mental diseases in Hartford.

Dr. Down was continuously a member of the State Board of Charities for more than twenty-two years and for the larger part of that time was its President. His associates have thus paid tribute to his services: "During his long tenure of office he attended the sessions of the Board with great regularity, often at the cost of personal inconvenience, and not only fulfilled his required duties as visitor, but cheerfully took upon himself many trying, unpleasant tasks in connection with the work of the Board, giving his time and strength without other reward than the consciousness of the faithful performance of service to the humane interests of the State." He was much interested in the provision for hospital care for the epileptics of this State and gave a great deal of time to a survey to determine the number and needs of this class. Through his connection with the State Board of

Charities he came much into contact with court officials of the State, with the result that he was often called in medicolegal cases, and his services were highly esteemed by the late Arthur Eggleston, State's Attorney for Hartford County.

Dr. Down was a ready writer and he contributed several short articles along the lines of his special interests. He was a person of broad sympathies, he gave himself unsparingly and devotedly to the welfare of his patients, and in the unpleasant duty of removing patients from the home to hospital care he always sought the course that would save the person undue mental distress and humiliation. In his death the Society loses an active and useful member.

Ward Slosson Gregory, M.D.

By H. K. W. KELLOGG, M.D.

Ward Slosson Gregory was born in Norwalk, April 2d, 1879. He was the son of James Glynn Gregory, a well-known physician in active practice and the grandson of Ira Gregory, who was also a physician for many years in Norwalk. His mother was Jeannette Linsley Pinneo, whose father, too, was a physician.

Dr. Gregory's early education was in private schools in Norwalk, he being the first graduate of the Harström School to enter Yale, his father's and grandfather's college, where he took the chemistry course in the Sheffield Scientific School, graduating in 1899. Having decided upon medicine, the next four years were spent at the College of Physicians and Surgeons in New York City, where he was among the first ten in his class, receiving one of the Harsen prizes.

From June, 1903, to January, 1905, Dr. Gregory was a member of the House Staff on the surgical side at St. Luke's Hospital in New York; the immediately following three months were spent on the House Staff at the Sloane Maternity Hospital.

After a trip abroad for several months, he took the Connecticut State examinations, attaining the honor mark known as the Blue Ribbon and started practicing his profession in Norwalk in the fall of 1905. This was successful to an unusual degree owing to his brilliant mind, studiousness and courage together with his sympathetic personality. He rapidly built up an extensive practice in medicine and surgery, the demands of which were greater than his physical endurance, and his health began to fail in 1906. The pulmonary lesion was fairly advanced when he rested for a year during 1907 and 1908 in the Adirondacks. He returned greatly improved in general condition but not cured. From then on he worked to the limit of his endurance, resting for longer periods at shorter intervals till June, 1915, when failing to recuperate in this climate, he went to Colorado Springs, where he died of pulmonary tuberculosis January 14, 1917.

Dr. Gregory was a member of the Staff of the Norwalk Hospital from 1906 to 1915. For three years previous to leaving Norwalk, he was Assistant Surgeon in the Connecticut Naval Militia. He was a member of the Norwalk, Fairfield County and Connecticut State Medical Societies as well as the American Medical Association.

Edward D. Hall, M.D.

By E. T. BRADSTREET, M.D.

Edward D. Hall was born at Raynham, Mass., in 1851. He studied at Bridgewater Academy in Middleboro, Mass., and received his medical degree at the Harvard Medical School in 1873. He came to Meriden, Conn., and entered upon the general practice of medicine in 1891. Previous to this he had practiced in Massachusetts and had taken some special courses abroad; a course in operative surgery in Berlin, and in physical diagnosis in Paris.

In Meriden he had a large office practice, and in 1901 was appointed supervising state medical examiner for the Royal Arcanum. Added to these duties was the routine of the general practitioner.

He was seldom seen at social or medical gatherings. While a pleasing and entertaining companion, his busy professional life and the enjoyment of his home seemed to entirely absorb his time. However, he was a 32d degree Mason, and a past worshipful Master of a Meriden Masonic Lodge, and also a member of the Knights of Pythias.

He was of commanding figure and had an impressive personality.

His patients had entire confidence in his skill and wisdom. During the last years of his life his health, which had appeared to be robust, gradually failed and he died after a brief attack of pneumonia on February 19th, 1920.

Charles Naham Haskell, M.D.

By GEORGE H. WARNER, M.D.

Dr. Charles Naham Haskell, of Bridgeport, died of angina pectoris on March 5th, 1919, at the Roosevelt Hospital in New York City in the fifty-seventh year of his age.

A love of science, combined with deep sympathy and intuition are the salient qualities which won for Dr. Haskell notable success as an exceptionally gifted physician. He received a thorough collegiate training and after his college days he remained a close student of the literature of his profession, thus keeping in touch with the most advanced and progressive thought.

Dr. Haskell was born in Woodstock, Vt., May 11th, 1862. He came of English ancestry on the paternal side, traced back in unbroken line for more than one thousand years.

A contemporary historian has said of the family: "There have been few geniuses among them, but there have been strong, faithful and honest men and women from the time when Oseytel, the Saxon bishop, bearded his king in favor of the Witenagemote; from the time when Roget de Haskell, at the battle of Hastings, dashed forward and, amid a shower of the enemy's arrows, secured and brought to William the Conqueror, who was exhausted from lack of food, the fruit of an apple tree which stood near the line of Harold the Great, the enemy; from the time when Ordegar Haskell trained with Cromwell's Ironsides on the fens of Lincolnshire; from the time when Surrey Haskell flashed his sword for Prince Charles; from the time when William, Roger and Mark Haskell landed at Salem in 1632; from the time when George Washington, in his personal letter complimented Prince Haskell for his courage in the Revolution; from that time to this, there has been no blot upon their record, no shame or disgrace attached to the name."

The doctor was a direct descendant of William Haskell, who came to this country from England in 1632 and located at Gloucester, Mass.

His grandfather, Naham Haskell, was born in Gloucester, whence, after a sojourn in Dartmouth, he removed to Woodstock, Vt., where he became the editor of the principal newspaper of that part of the State.

Dr. James N. Haskell, our subject's father, was born and reared in Woodstock and was graduated from the medical college in that city. In early manhood, he engaged in the practice of dentistry, becoming in his day the most noted dentist in the state of Vermont. Later, he practiced medicine, and the latter years of his life were passed in St. Louis, Mo., where he died in 1884.

Dr. Haskell's mother, Loraine Young Haskell, who passed away in 1878, was also a native of Woodstock, and was of Scottish descent. Her father, John Young, who served as a soldier in the War of 1812, lived to the advanced age of ninety-one, and although a man of small stature, he was noted for his great physical strength and endurance.

Dr. Charles N. Haskell, an only child, pursued his education in the public schools of Vermont, and also under the direction of private tutors. A retentive memory was ever one of his strong characteristics, and kept him easily in the lead in his classes in school. In fact, he seemed to possess an insatiable appetite for knowledge and his parents feared he was spending too much time in studying, and not giving enough to the outdoor life and recreation, which serve as up-builders of that strength so necessary as a foundation for success in later years.

When but a lad, he studied both shorthand and telegraphy, and mastered telegraphy within a month. He was at one time the youngest telegraph operator in the United States. When he was only ten years old, his favorite recreation was a game of checkers played by telegraph with a youthful operator in a distant city. A few years later, after leaving school, he became one of the most skilful operators in the country and filled many responsible positions in the large telegraph offices of this country. In 1884, during a tournament, held in Chicago, he won the prize for the fastest transmission of messages.

He also early displayed a fondness for the stage and was an

active and valued member of several amateur dramatic organizations in different cities where he resided. During his residence in St. Louis, he enjoyed considerable reputation, among the athletic followers of the town, as a pugilist, and he gave public exhibitions of his prowess in the manly art. In the season of 1879-80, he played with the first "Pinafore" company that toured New England.

All these activities, however, were regarded by him as mere side-issues, rather than permanent occupations. In fact, from early boyhood, he had resolved to become a physician and with that end in view, became a student in the office and under the direction of Dr. F. M. Bennett, a prominent homeopathic practitioner of Springfield, Mass. For nearly two years he spent his day working hard as chief operator in the Western Union office, and at night he would work many hours over his books. At the end of that time, he became a student in the New York Homeopathic Medical College. A short time afterwards, he took up the study of the regular school and after three years' preparation was graduated from the University of Vermont in 1890. He was awarded second prize for high standing in his class. In the intervals of his college work, he took courses of instruction in the hospitals of Boston in connection with the Harvard Medical School, and the different hospitals in New York. He also served for a year as assistant instructor in pathology in the Post Graduate Medical School in New York City.

Dr. Haskell entered upon active practice in Bridgeport in 1891 and his ability soon won for him a liberal patronage. After a brief period, he was appointed city physician and attending surgeon of the Emergency Hospital, but after two years he resigned both positions in order to concentrate his entire attention upon his private practice, which in the meantime had been constantly growing in volume and importance.

He kept in touch with the modern professional thought and progress as a member of the Bridgeport Medical Association, the Fairfield County and Connecticut State Medical Societies, the American Medical Association and the New York Neurological Society. For twenty-nine years, Dr. Haskell was con-

nected with the New York Post Graduate Hospital and in that institution he served as clinical assistant, instructor and lecturer in nearly all of the various departments of medicine. This constant and faithful application to his calling, served to give him a remarkably broad and conceptive view of the practice of medicine.

For a number of years he confined his energies to internal medicine and neurology and was recognized as one of the most thorough and competent diagnosticians in the country. Several years ago he was the moving spirit in the Fairfield County Anti-Tuberculosis Association. About that time he won the first prize for a short article written on the early diagnosis and treatment of tuberculosis. This was in answer to one of the so-called prize questions of the New York Medical Journal, which was open to the profession throughout the country.

To Dr. Haskell, more than to any other, Bridgeport owes its present clean milk supply. A few years ago he carried on, practically alone, a most aggressive campaign against unsanitary dairies and dirty milk.

Dr. Haskell was a most entertaining conversationalist, and possessed a very facile pen. He wrote many short articles for the public press, and these not only found ready acceptance, but were sought by publishing syndicates of the country. But he did not allow them to be so used, until he received the commendation and sanction of the American Medical Association. These articles were written for the laity, and in their simple directness never failed to reach the point he wished to make. This was his recreation; he loved to do it, and he did it well. The articles were never signed, but always appeared under the caption of Editorials by the Medical Editor. Dr. Haskell did much for the development of public health service in Bridgeport. During the recent influenza epidemic, he was given charge of Lakeview Home and spent much time there studying the disease. He also took a leading part in combating epidemic infantile paralysis.

Dr. Haskell was distinctly the friend of the younger generation; he was generous to his patients, even to his own financial detriment. He always had the best word of praise for the

beginner in his chosen profession and was ever ready to put work in the way of the able physician in need of support. He was able though cautious, always taking advantage of every known means as an aid to diagnosis. He was apparently absolutely free from professional jealousies; anxious to meet a brother practitioner in consultation, but ever ready and fearless in defending his own position.

To be greeted by Dr. Haskell daily, as only he could greet one, with his accustomed smile, and the cheerful twinkle in his eye, it is hard to believe that hourly he was reminded of impending death. And yet under such conditions he lived for two years, apparently a man without a care. Dr. Haskell kept at his work until the day he died, and to use a familiar and expressive term, it may be said most reverently, that he died as he had lived, with his boots on.

He was married three times, two marriages having resulted in divorce. In 1900 he married Miss Sally Perry in New York. She survives him. He leaves a daughter by his first marriage and one grandchild.

Philip T. Kennedy, M.D.

By HENRY N. COSTELLO, M.D.

Philip T. Kennedy was a life long resident of Hartford, where he received his preliminary and collegiate education, having been graduated from the Hartford Public High School in 1901, and Trinity College in 1905. His degree of Doctor of Medicine was received from Harvard Medical School four years later.

After an internship in the Boston City Hospital, he served terms in the Boston Floating Hospital and the Providence Lying-In Hospital.

Returning to his native city, he engaged in general practice for five years, then entered upon the work which he loved and to which he had long looked forward—Pediatrics. He was Pediatrist to St. Francis Hospital, to St. Agnes Home, an attendant to the Babies' Hospital, a member of the Civilian Relief Committee of the American Red Cross, and a member of the North-West School District Committee.

On June 17th, 1914, he married Ann St. Lawrence Clary of Hartford, who survives him, together with two sons, his father, Philip S. Kennedy, his mother, three sisters and two brothers.

His was a remarkable disposition. His keen sense of humor and his subtle wit, not only brought many pleasant moments into the lives of those associated with him, both professionally and socially, but his sympathetic, loving nature brought joy and happiness to many a sufferer.

Of his work little need be said. Possessed of a keen intellect, the goal of success was assured him, but his conscientious and self-sacrificing nature wore down a physique unable to stand the test, and a career which held much of brilliant promise was terminated at the early age of 37, following an illness of three years from bronchiectasis.

His passing brought profound sorrow to a wide circle of friends and associates, who had learned of his unfailing cheerfulness and high courage in a brave fight against tremendous odds.

He will long be remembered.

Jacob May, M.D.

By J. W. WRIGHT, M.D.

Doctor Jacob May was born in New York City on November 17th, 1850, where he lived until fourteen, when his parents moved to Fond du Lac, Wis. After his preliminary education in the public schools he first studied pharmacy and then entered the Rush Medical College from which he was graduated in February, 1876.

In September of the same year he married Ida H. C. Martin of Fond du Lac, Wis. and began the practice of his profession in Des Plaines, Ill.

In September, 1881, he came East and took a course at the Post Graduate Hospital in New York, and then began practice in Bridgeport in the early part of 1882—opening an office on East Main Street.

For eight years he continued an active and successful practice, acquiring a large clientele of loyal patients. He then became interested in the oyster industry and with his usual enthusiasm devoted most of his energies to that business, acquiring many acres of oyster ground and building a steamer for caring for the same. The returns for efforts and funds spent in this direction were insufficient, however, and he again turned his attention to medicine which he had sadly neglected for two years.

This was just at the period when Roentgen made the discovery of the X-ray and its use in photographing bones.

After a study of several weeks in the application of electricity and its use in photography Dr. May opened an office on State Street, and for two more years practiced medicine mainly in special work with electricity.

During this period he became interested through one of his patients in visions of wealth to be obtained in mines, and acquired, finally, control of mining properties in Okanogan Co., Wash.

The remaining portion of his life was almost wholly devoted

to developing and maintaining the mining property he had acquired.

He did not live to realize his expectation of acquiring wealth in his mines although at the end he received assurances of support in his work and a promise of success in his efforts.

Stricken with a fatal malady, he was operated upon by Dr. Sharples of Seattle, in July, 1918, and then came back home where he lingered until the final summons came on February 23d, 1919. He leaves his wife, one son, F. J. May of Tonasket, Wash., and one daughter, Mrs. Wm. G. Rockwell of this city.

Every man is a guide post to those who follow after. It is not amiss to emulate the good and avoid the errors of our friends. In his profession Dr. May made and kept his friends by his genial manners and kind disposition. His enthusiasm was contagious. It was his misfortune that he was led into other fields and failed. He was not the only one who regretted that he did not continue in his professional life in which he excelled.

He rests at last in the peace which he so often wished for through the troublous period of his later life.

H. Walter Murlless, M.D.

By ERNEST R. KELSEY, M.D.

On August 24th, 1919, Dr. H. Walter Murlless died at his home on Whitfield St., Guilford, after a long and painful illness extending over several months.

Dr. Murlless was born August 10th, 1869, at Windsor Locks, Conn., and was the son of Dr. Frederick Thomas and Ellen (Perrin) Murlless.

His early education was gained in the public schools of his native town and at the Suffield Literary Institute of Suffield, Conn. He was a graduate of the Louisville Medical College of Louisville, Ky., and also of the College of Physicians and Surgeons of New York.

His early practice was in Hartford, where he was the official city physician for two years. In 1895, he was appointed to the post of assistant surgeon of the Connecticut National Guard being at that time, a member of Co. K of the First Regiment of Infantry.

He came to Guilford on January 1st, 1898, and became popular at once as a citizen and physician, and soon began building up a big practice which he enjoyed almost to the end.

He was always interested in the town and borough, and took active part in the political affairs of both. For several years he held the office of town Medical Examiner. He served as chairman of the Examining Committee of the Draft Board during the war. He was a member of the Blue Lodge, of the Royal Arch, and of the Council, of the order of Masons, also a member of Menuncatuck Lodge of Odd Fellows.

He was a member of the American Medical Association, of the New Haven and State medical societies, and a life member of The Surgeons Club of Rochester, Minn.

He is survived by his wife, Agnes Fayette, daughter of Mr. and Mrs. Richard Kelsey of Guilford, to whom he was married in 1901, by his mother, and sister, Elizabeth Murlless of Wash-

ington, D. C., and his brothers, Dr. Frederick T., Orthodontist of Hartford, Arthur G. of Chicago, Ill., and Judson S. of Phoenix, Ariz.

Dr. Murlless as a physician and surgeon, held an enviable position throughout southern Connecticut; his skill and magnetic personality being recognized throughout the country.

As a "family doctor" he was beloved and esteemed throughout Guilford and the surrounding towns, where his big heart and wonderful ability, as a physician, made him the reliance, advisor, and friend in hundreds of households.

Aside from physician and surgeon, Guilford will always have reason to remember Dr. Murlless as one of its most prominent residents and public-spirited citizens.

In his death not only has Guilford, but the County and the State lost a useful and progressive citizen, and the Medical Society a gifted and esteemed member.

Rosavelle G. Philip, M.D.

By A. M. HURLBUTT, M.D.

Dr. Rosavelle G. Philip was born January 19th, 1847, in the town of South Swansea, Mass., being the oldest daughter of Alfred G. and Adelia A. Gardner. Until she reached the age of twelve she lived with her family in South Swansea and near Fall River, and her education was carried on at home. Shortly before the outbreak of the Civil War, the family moved to Providence, R. I., where she entered the public schools. Her father, on going into the army, left his children, four in number, in her charge, so that very early in life she began to carry responsibilities which ordinarily come only to a much older person. Her father was killed at the Battle of Gettysburg, and from that time on, for some years, she shared with her mother the care of bringing up the younger children. From her father she inherited a love for study and many tastes which eventually led her to elect the study of medicine.

From both parents she imbibed the high ideals and many of the principles which made her the careful, kind and sympathetic physician and friend, the loss of whom so many in Stamford now mourn. After some time spent in the public schools in Rhode Island, she completed her general education, graduating from the Hudson River Institute at Claverack, N. Y., and while there began to read medicine with Dr. James F. Philip of that town, after which she studied and was graduated in medicine in New York. After receiving her degree of M.D., she married Dr. James Philip and began the practice of medicine in Stamford and soon established a reputation for careful, conscientious work which brought her a large and constantly growing clientele. Dr. Philip did far more than her share of charitable work in Stamford, but reaped a reward in the love of her patients and the respect and admiration of her brother practitioners. Her husband's health failed soon after she began practice in Stamford

and she carried the burden of nursing him for nearly fifteen years until his death. Dr. Philip did considerable clinical work for many years at the Women's Hospital in New York.

She was Medical Examiner of the public schools of Stamford for six years, and was connected with the Stamford Hospital, being attached to the staff as Consulting Physician. Her life was spent in devoted service to her large circle of patients and she is greatly missed by both them and by her medical brethren.

George Loring Porter, M.D.

By SAMUEL M. GARLICK, M.D.

Dr. George Loring Porter, Soldier, Patriot, Physician, respected Citizen and gentleman of the old school, was born in that beautiful Capital City, Concord, N. H., on the 29th day of April, 1838, and died the 24th day of February, 1919, thus covering in his more than 80 years' span of life a period of the world's greatest achievements in mechanical science, useful art and constructive democracy.

In the course of his active and intelligent life he saw steam-power become dominant and yield in turn to electricity applied to constructive usefulness; the aerial world come to be the highway of travel; and the uncharted depths of the unknown seas become the dark passageway of the would-be destroyer or the safe lane of the beneficent merchant-man. In the field of his own much loved and highly honored profession, he saw and experienced the humane beneficence of general and local Anaesthesia; under his appreciative observation came the improvement of the Stethoscope, Clinical Thermometer, Cardiology, X-Ray, the Sphygmomanometer with multiple other instruments of diagnostic precision and means of exploring, appreciating and successfully charting the internal activities of that wonderful mechanism, the human body. Surgery, the specialty of his choice, during his active life, by virtue of these same improvements in constructive and useful science and in instruments of precision has advanced from an uncleanly, hurried and horridly painful superficial work, to a leisurely, intelligent exploration, and reconstruction of the very innermost recesses of the seat of life; the unresisting patient meanwhile comfortably resting on a painless couch, in the immaculately clean "Sanctum Sanctorum" of the present-day hospital surgeon.

Equal indeed, during Dr. Porter's life, and in no less degree beneficent than all the above, were the progressive changes

wrought in the two fundamentals in the Art and Science of medicine, namely—Diagnosis and Therapeusis. Beguiled by the aid granted us by the varied instruments of precision, and mechanical substitutes for hand and eye, are we not now in danger of going too far away from the shrewd, individualistic observation of our Fathers, and coming to depend more upon the machinery of diagnosis than upon knowledge of disease and diseased conditions? And again, in Therapeutics, in consequence of the remarkable results of chemical analysis and synthesis, discovering and isolating the active principles of so many useful drugs, producing (and with true German efficiency, advertising) so many wonderfully useful, even if oft-times over active, "Coal-tar products," are we not in danger of forgetting the Galenicals, of straying away from those things both useful and good, which lie near at hand in our own fields and door-yards, of depending too much upon the synthetic chemicals and too little upon our study of the individual patient, of disease as an entity, and of therapeutic aids to the natural forces of the body in restoration to health and function? The writer makes no risk of denial in asserting that such was the belief and ripened opinion of the subject of this sketch, as expressed by him in conversation and in act.

Born of an early New England stock, with primary education in the public school, the best of all democracies, secondary education in those schools of solidly constructive worth, the old time New England Academy; graduated in Arts at Brown University in 1859, and in Medicine from Jefferson in March, 1862, Dr. Porter came upon active life at a time suited to his birth, temperament, education and patriotism.

The next month following his graduation Dr. Porter entered the Medical Service of the U. S. Army in the war for the Union, being immediately mustered into active service at Strasburg, Va., as a "Proof Candidate," and receiving his Commission as Assistant Surgeon in July of the same year. He remained in active service during the entire period of the War, being present at no less than twenty important engagements in one of which he was wounded and was once made prisoner by the

Confederates under Colonel Ashby. General "Stonewall" Jackson, recognizing merit in the young prisoner, put him in charge of the hospital and requested him to care for the Confederate wounded also. This act appears to have been the first recognition during the War of the Rebellion of the right of medical officers to claim the protection of the rules of War governing non-belligerents. Being recommended for promotion for bravery on the field of battle, in March, 1864, Dr. Porter was brevetted Captain and Major. In referring to this service, Captain Julius Mason, U. S. A., addressed the Board of Officers on Staff Brevets as follows:

"During this time the regiment was engaged in many battles, losing heavily in killed and wounded. Assistant-Surgeon Porter's faithfulness to the sick and wounded is gratefully remembered by the Officers and men; and conspicuous gallantry during the battles of Upperville, Aldie, Gettysburg, Williamsburg, Funktown, and Brandy Station, where he took the dead and wounded almost from the hands of the enemy, entitles him to the greatest praise and consideration. He was under my command during all the above mentioned battles, and for his gallant conduct, and faithful and intelligent services he is justly entitled to *a brevet captaincy and a brevet majority.*"

Relieved of duty in the field Dr. Porter was made, in May, 1864, Post-Surgeon at Washington Arsenal. He had medical charge of the Lincoln conspirators, was present at the hanging of five of them and accompanied the others to Dry-Tortugas, where they were imprisoned. He was the only commissioned officer present at the disposal of the body of John Wilkes Booth, and many of the members of this Society can well remember the pleasure the Doctor had in giving his instructive and entertaining lecture which embodied his reminiscences of that fateful period in the history of the Country, which he had served so patriotically and so well. After the War Dr. Porter was ordered to the frontier, where he served among the Indians and rattlesnakes until July 18th, 1868. At that time all the Country West of St. Louis was a vast buffalo-roamed prairie. It took Dr. Porter three months to make the trip on steamer and horseback up the Missouri River

from St. Louis to Montana, where he reported to Col. Benton at Camp Cook, on the 27th of August, 1865. An interesting item, disclosing the state of our Western Country only fifty years ago, is, that a fruit cake sent from Providence, R. I., where his wife then was, in the month of September, so that it would surely reach the Doctor by Christmas, was actually received by him on July 4th, following. Patriot as he was, we can readily believe that Dr. Porter had a greater joy on that Independence Day than he would have had on the preceding Christmas had the cake then arrived. Upon arrival of his successor, Major Porter completed the journey across the Continent over the Lewis and Clark Trail, on horseback and alone, to the Pacific Coast, thence home to the East by way of the Isthmus of Panama.

Almost immediately upon discharge from service in the Army, Dr. Porter entered upon civil practice in Bridgeport, making Surgery a specialty in a General City and Suburban practice, having his office in a dwelling on Main Street, at the location of the present Howland Dry Goods Store. Soon after coming to Bridgeport he became associated with the late Dr. Robert Hubbard, thus combining to make one of the strongest and most influential medical centers in the State. In their offices both instruction and practice was constructively combined. Many practitioners in Fairfield County today, and at one time most of them, received a large part of their early medical education in the offices of Drs. Hubbard and Porter and an honorable body of men they sent out. Possessed of native ability, a liberal education, dignified in manner, generous and kindly in spirit, judicious and efficient in treatment, it is needless to say that Dr. Porter soon established a successful and enduring practice. Add to these attainments the quality of a "good mixer,"—a love of humanity,—a wonderfully varied experience, a large knowledge of affairs, a wide acquaintance with public men and it is no wonder that the Doctor became a much esteemed and widely honored citizen.

In civil as in military life, Dr. Porter gave efficient service to the State. Four years he was in the Connecticut National Guard as Surgeon, and three years as Medical Director, with rank of

Colonel, on the Staff of the Major General, commanding; he was visitor at Hartford Retreat for the Insane since 1879, and for many years President of the Board of U. S. Pension Examiners. From its inception Dr. Porter was an interested and efficient member of the Bridgeport Hospital Staff, both as active and consulting Surgeon, making an impressive inaugural address at the opening of the new Surgical Ward. He was a member of the Board of Trustees and Ex-chairman of the same. He was one of the founders and at one time President of the Bridgeport Medical Association, in which he took a lively and faithful interest. At the Annual Banquets, a function which he made it a religious duty to attend, his postprandial speeches were the meat of the occasion, racy, instructive, entertaining. Kindly feeling and personal friendship are fostered by the annual passage of the silver Loving Cup, which he presented to the Society. He was President of the Fairfield County Medical Association in 1883, President of the Connecticut Medical Society in 1888-89 when he gave an enlightening address upon "The Cost of Sickness to the Individual and to the State"; member of the Judicial Council of the A. M. A. 1891-1894; Vice-president of the Section on Military Surgery of the Ninth International Medical Congress. At one time or another Dr. Porter was active in membership, usually President, of nearly all the health and public-welfare and scientific organizations of his adopted city, including the Board of Health, Board of Education, Library, Masonic Fraternity (33d degree), Phi Beta Kappa, and other social or fraternal organizations. Being a good shot, fond of the wild, an enthusiastic hunter and fisherman, he naturally affiliated with all the Fish and Game Clubs; was one of the original members of the great Metabatchwan Club in Canada, obtaining from the Canadian Government lease of an extensive and exceptionally fine territory for fish and game. In later years and until his health became too precarious, he spent a vacation each year in these woods. All in all he was probably more successful as a fisherman and killed more big game, such as buffalo bear, deer, wild-cats, and moose, than falls to the lot of most hunters, and yet to him (and characteristic of his profession)

a life was the most precious thing and the saving and bettering of life the sincerest effort of his life.

Dr. Porter's life was not, however, all given to practice, to sociability or to the chase; he was also a man of letters. His contributions to Medical Literature are both numerous and instructive as well as original. Indeed he seems to have had the spirit of a pioneer and to have had a fad for the *original* in everything. I believe I have somewhere seen it stated that every professional man should have at least *two fads* to keep him from rust and ennui. Dr. Porter had at least three; his love for the original in medicine; the pioneer spirit in life; and his fondness for original studies of historical characters and for the originals of interesting and important letters and historical papers. Of the latter, indeed, his refined and modest home on State Street was a treasure-trove,—among others I will mention only letters from Lincoln, messages from Indian Chiefs, General Grant, the Actress Laura Keane. Mention has been made of President Lincoln of whose history and life Dr. Porter was particularly fond. From early life he was interested in Washington as a soldier, patriot and man. This enthusiastic interest led him to make his large collection of relics and of books related to and concerning the Father of his Country. It is said that he had more than 500 portraits of Washington, showing him in all the habits and costumes which he was known to have worn. That collection is unique and can not be duplicated; nothing would do for the Doctor, but an "original."

In 1862 Dr. Porter was united in marriage to Miss Catherine Maria Chaffee of Providence, R. I., whom it is fair to believe he had met, loved, wooed, and won whilst he was pursuing his college course at Brown University. For more than fifty years they lived and loved and labored together. Their home life was sweet, courteous and dignified with a gracious hospitality. Mrs. Porter passed into "the other room" in 1915. Accompanying a picture of Mrs. Porter, and regarding which, he wrote to his friend, "My bride as she was in 1862," Dr. Porter quotes the following line, from a poem written by his daughter-in-law, Mrs. Helen Talbot Porter:

"Fear not, O Trembling Soul, thou canst not see
The way of life nor what thy path shall be,
But courage! God hath said to thee and me, 'I will be with thee.'"

Their union was blessed with twelve children, seven daughters and five sons. Of these children but two sons survive them. There are six grandchildren, one of whom, Miss Ethel Dickenson, is studying medicine in Philadelphia.

Dr. Porter was a Christian, not a mystic, not a pietist and unwilling or bound by formula.—"Loving the noble life without a creed, yearning each day to do a noble deed." Nevertheless he had an abiding faith that God rules. In early youth he united with the Baptist Church in New Hampshire; on coming to Bridgeport he transferred his connection to the First Baptist Church of which he remained an active, loyal member for more than fifty years. For many years, during his most active practice, he was Superintendent of the Sunday School.

As the infirmities of disease and of age gathered about Dr. Porter, he "grew old gracefully." As in the vigor of life he loved progress and activity, so in age he loved youth and its ambitions. For many years he made it a practice to call upon and become acquainted with, each professional new-comer, and graciously encourage every young Doctor coming into the city. No man could rise from a conversation with Dr. Porter and not feel a nobler self. Much indebted and gratefully remembering many kindnesses, I do not recall a word, or act, or sign of professional jealousy. He was not one who extolled only the "good old times," of the past. Eternally young he believed in the present and had hopes for the future; to him the best was ever yet to come. As he had *been* loved, so in his age he loved the young and making his age not a burden but a joy, he could gracefully say to ardent youth:

"As newer comers crowd the Fore,
We drop behind,
We who had labored long and sore,
Time out of mind,
But keen as yet, do not regret,
To drop behind."

Conscious of irremediable weakness and fully aware of the rapidly approaching end, for many months, Dr. Porter "walked with God, as Friend," nor made complaint. In his vest-pocket, after his death, was found a slip of paper on which was written in his own hand, these lines from Van Dyke:

"So though the road wind up the hill or down,
Or rough or smoothe, the journey will be joy,
Still seeking what I sought when but a boy,
New friendship, high adventure, and renown,
I shall grow old, but never lose life's zest,
Because the road's last turn will be the best."

In the Autumn of 1918, he delayed his usual winter visit to the South, for various indefinite reasons, including concern as to his own condition. Finally in hope of easing his respiration, he went with his sister, Mrs. Wm. E. Lincoln, and her husband to Stuart, on the Saint Lurie River, Florida. Here he was surrounded by congenial friends and indulged in his favorite sport, fishing. Speaking of this in one letter, he says, "And some of us are not averse to a game of Bridge." Of this location, with his characteristic grace, he writes, "We are beautifully located, ———— facing a wide expanse of the St. Lurie River, two miles to the other bank, across whose waves the silvery moon, the golden sunset and the bright stars of the Southern night make beautiful the day and night."

However, the uncertain climate of the Sunny South did not bring relief to the over-burdened heart and the declining vitality. He writes, "I feel like going home from Florida to *get warm*, for it has rained half the time since we reached here." A few days before his death, after a delightfully naive account of his companionable associates and the "delectable" Southern ladies, he writes, "Personally I am having an extremely uncomfortable time, for I am unable to get any good rest, but have to sit up—— last night I was not able to ——be an old man before I know it——at all. I shall soon——," and here the letter ends unfinished, incomplete and unsigned. We can readily imagine the thoughts of that brave man, as day by day and night after night he walked on the verge of the eternal and the unknown.

One evening, but a few days after the unfinished letter, death came. Confined to his room for two or three days, he declined an invitation to come down for an evening at bridge, and partook of a light supper. A physician friend called and was accompanied by Mrs. Lincoln to the Doctor's room, who rose with gracious manner to admit and welcome them. As he resumed his seat a change was noticed. He rested in his sister's arms, and with smiling face, responsive to her affectionate appeal, fell asleep.

A beautiful ending to a noble life. In the land which he had fought to redeem from the curse of racial slavery, and practically surrounded by those, now his friends, once his enemies on hotly contested battlefields for human rights, this brave soldier, this pioneer, this good physician laid himself down to peaceful sleep.

The contemplation of the lives of such men is inspiring. Of such men great states are made, within our noble profession such lives abound; of them it may again and ever will be said:

They are first in War, first in Peace, and first in the hearts of their Countrymen.

Donald G. Russell, M.D.

By JOSEPH MARSHALL FLINT, M.D.

On October 17th, 1918, Dr. Donald G. Russell, a member of this Society, died in France in the service of his country. His name and memory will be treasured in our records not alone for the cause in which he died but even more for the way in which he lived.

He was the second generation of his family on the rolls of this Society as his father still holds with us an honored place. Dr. Russell was prepared for college at the Choate School and was graduated from the Sheffield Scientific School in 1909. In 1914, he received his doctorate in Medicine from Yale, cum laude, and was a winner of the Keese prize. As a medical student, his work was more than creditable. He stood among the highest of his class and published an unusual paper concerning "The Effect of Aniline Dyes on Protozoa." The subsequent year was spent as House Officer in the New Haven Hospital where he left a record of duty well performed. At the conclusion of his internship in the first year of the Great War, he volunteered for service with the French. He was in France over eight months at Hôpital 32 bis Chateau de Passy. Here he took a particular interest in the newer methods of suspension and extension in the treatment of fractures and the irrigation of the infected war wounds with solutions of Gentian Violet. Aside from the purely professional aspects of his work, he was a devoted officer and rapidly established a unique relationship with the wounded under his care. Sympathetic, humorous, human—his patients soon developed a personal attachment which rapidly overcame the barrier of tongue and led to the development of a Franco-American patois—as amusing as it was effective. He returned to this country to be married and joined his father in practice in Wallingford, where he remained until America's entrance into the war.

In June, 1917, he passed his examinations for the regular

Medical Corps and was commissioned a First Lieutenant. After three months in the Army Medical School and a course in the Rockefeller Institute he sailed to join the Expeditionary Forces in October, 1917. His first assignment to duty was with the British orthopedic service at the Black Rock Military Hospital in Dublin. Here he was attached to a well established orthopedic hospital organized on a background of three years of combat experience. He was soon given a great deal of operative responsibility owing to his previous training in France. During this period, he also saw many interesting aspects of the Irish problem and at times, he told me, was forbidden to leave the hospital for weeks on account of the street fighting.

In March, 1918, he was detached from Dublin, and ordered to join the Americans in France as orthopedist to the First Division. This assignment was no sinecure—it involved living with the Division under Division conditions that meant trenches, casual billets, personal discomfort and danger. With a great deal of responsibility, his duties involved the oversight of the splinting of the wounded by the Divisional Medical Officers. Those who will recall the conditions in which the fractures were transported, will realize how well this aspect of the work of the Medical Department was accomplished. During the summer he suffered from an attack of appendicitis and was operated upon in a Field Hospital. The Hospital was bombed by an enemy aviator and Russell was blown out of bed during his convalescence, fortunately without being hit by any fragments or suffering any serious subsequent consequences. His work with the first Division carried him up to the early part of October when he received a promotion in the form of an assignment as Orthopedist to the Sixth Army Corps. While in Paris on his way to report for this duty, he was taken ill with influenza and died in Red Cross Hospital No. 1—the old American Ambulance at Neuilly. In the early summer he had taken and passed the examinations for his majority and was awaiting advancement to that grade when his untimely death occurred.

His was a life that revealed no extraordinary accomplishments, no acts of genius, nor anything that is intensely dramatic. It is

easy to meet the emergencies of life, but difficult to face with equanimity and humor the petty tyrannies of daily routine. From his boyhood, he had a record of consistent work well and conscientiously done. He was a loyal friend, a good companion, and faced cheerfully the obligations which duty and opportunity laid upon him. It is in this sense that the Society may feel it has lost one in whose record it may take unusual pride even had he not made the great sacrifice that assures him an honored place in the hearts and memories of any group as long as freedom is a thing for which men live and die.

Maurice Steinberger, M.D.

By H. A. NEUMANN, M.D.

Dr. Maurice Steinberger was born in Kalocsa, Hungary, in 1865. His father was for many years overseer of a large estate belonging to the Archbishop of Kalocsa and the Roman Catholic Church. Dr. Steinberger received his education at the Jesuit College at Kalocsa where he spent eight years.

After the completion of his academic course, he entered the Medical College of the University of Budapest in 1883. He was graduated in 1888. Following his graduation, he became connected with the Kraft-Ebing Institute. Shortly after this his father died and left him a considerable fortune.

Dr. Steinberger then engaged in business and in ten years lost his money. He emigrated to America in 1903 and was engaged as American Correspondent for two Budapest newspapers. He wrote weekly letters on American events and impressions of American life and literature. These were signed "Tompkins" and were a regular feature for several years. He was made secretary of the Hungarian Relief Society in New York and soon became a conspicuous figure in Hungarian American circles. Largely through his efforts the Hungarian Government contributed ten thousand dollars annually to the Hungarian Relief Society. This Society maintained a home for sheltering indigent Hungarian immigrants and rendered useful aid to needy Hungarians in America.

In 1909, Dr. Steinberger moved to Bridgeport and began to practice medicine. In a few years he obtained a very large clientele especially among native Hungarians. He was affiliated with the American Medical Association and was a member of the Staff of St. Vincent's Hospital. Dr. Steinberger was an earnest student, and a careful and accurate diagnostician.

He died of lymphatic leukemia on December 23d, 1918, at St. Vincent's Hospital. His death was mourned by his many friends in the medical profession and by his numerous grateful patients. Dr. Steinberger's will directed for his burial in the Jewish Cemetery of his native city Kalocsa.

CHARTER AND BY-LAWS.

Resolution Amending the Charter of the Connecticut Medical Society.

GENERAL ASSEMBLY.

JANUARY SESSION, A.D. 1905

Resolved by this assembly:

Section 1. That the charter of the Connecticut Medical Society, approved June 5, 1834, and as the same has been amended from time to time, be and the same is hereby amended so as to read as follows:

That all persons who are now members of the Connecticut Medical Society and all physicians and surgeons who shall hereafter be associated with them in pursuance of the provisions of this resolution shall be and remain a body politic and corporate by the name of The Connecticut State Medical Society; and by that name they and their successors shall and may have perpetual succession; shall be capable of suing and being sued, pleading and being impleaded, in all suits of whatever name and nature; may have a common seal and may alter the same at pleasure; and may also purchase, receive, hold, and convey any estate, real and personal, to an amount not exceeding one hundred thousand dollars.

Sec. 2. The superintendence and management of the corporation shall be vested in a board to be known and called by the name of The House of Delegates of The Connecticut State Medical Society, which board shall have power to establish officers in said corporation and prescribe the duties of the several officers and of the members of said corporation and may fix their compensation; to establish the conditions of admission to and dismissal and expulsion from said society; to lay a tax from time to time upon the members, not exceeding five dollars in each year, and to collect the same; to hold and dispose of all moneys and other property belonging to the corporation in such manner as they may deem proper to promote the objects and interests of the society; and in general to make such by-laws and regulations for the due government of the society, not repugnant to the laws of the United States or of this state, as may be deemed necessary.

Sec. 3. The House of Delegates of The Connecticut State Medical Society shall be composed of, (1) ex officio, the president and secretary of the society; (2) delegates to be elected annually as hereinafter provided, by the several county medical associations in this state which heretofore have been and now are affiliated with The Connecticut Medical Society; and (3) eight councilors to be elected from time to time as hereinafter provided.

Sec. 4. An annual meeting of the corporation for the election of officers and such other business as may from time to time arise, shall be held during the month of May in each year and upon such day in said month as the House of Delegates shall from time to time prescribe.

Sec. 5. At a meeting to be held at least twenty days in advance of the annual meeting of the corporation in each year, every affiliated county association shall elect a delegate or delegates to represent it in the House of Delegates of this society in the proportion of one delegate to each thirty-five members, or any part of that number, and the secretary of such affiliated county association shall send a list of such delegates to the secretary of this corporation at least twenty days before the date of said annual meeting.

Sec. 6. The first councilors shall be appointed by the president, one from each county, who shall serve for one year or until their successors shall be elected. At their annual meeting in the year 1906, each affiliated county medical association shall elect one councilor, of whom those elected in Hartford, New London, Windham, and Middlesex counties shall serve for one year, and those elected in New Haven, Fairfield, Litchfield, and Tolland counties shall serve for two years; and at the expiration of the term of office of the councilors, so elected, each affiliated county medical association shall, biennially thereafter, elect a councilor, who shall serve for two years.

Sec. 7. The secretary of every affiliated county medical association in this state shall, in May, 1905, and annually thereafter, at least ten days before the annual meeting of the society, file with its secretary a list of all members of said respective county associations who are at the time in good and regular standing, and thereupon all such persons shall become and be members of The Connecticut State Medical Society without further action.

The Connecticut State Medical Society.

BY-LAWS.

CHAPTER I.

Section 1. Name. The name and title of this organization shall be The Connecticut State Medical Society.

Sec. 2. Purposes of the Society. The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of Connecticut, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; to enlighten and direct public opinion in regard to the great problems of State medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

Sec. 3. Component Associations. Component Associations shall consist of those county medical associations which heretofore have been and now are affiliated with the Connecticut Medical Society.

Sec. 4. Composition of Society. This Society shall consist of members, delegates, guests, and honorary members.

Sec. 5. Members. Members of this Society shall be members of the component county medical associations.

Sec. 6. Delegates. (1) Delegates shall be those members who are elected by the component county associations; (2) the Councilors; their respective component associations in the House of Delegates of this Society.

Sec. 7. Guests. Any distinguished physician not a resident of this State who is a member of his own State Association, may become a guest during any annual session on invitation of

the officers of this Society and shall be accorded the privilege of participating in all the scientific work for that session.

Sec. 8. Honorary Members. Eminent physicians, not residents of this State, may be elected Honorary Members by a major vote of the House of Delegates after nomination of one year, but shall not exceed three in any one year.

Honorary Members shall have all the privileges accorded by Section 7 to guests.

CHAPTER II.—MEMBERSHIP.

Section 1. The name of a physician upon the properly certified roster of members of a component association, who has paid his annual assessment, shall be prima facie evidence of membership in this society.

The annual tax shall be collected from all such members except the secretaries of County Medical Associations, but the taxes of any member may be remitted by vote of the House of Delegates upon recommendation of any County Medical Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component association, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of the Society, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component association of which he is a member.

CHAPTER III.—HOUSE OF DELEGATES.

Section 1. The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the component county associations; (2) the Councilors; and (3), ex officio, the President and Secretary of this Society.

Sec. 2. The House of Delegates shall meet on the first day of the annual session. It may adjourn from time to time as may be

necessary to complete its business, provided that its hours shall conflict as little as possible with the General Meetings. The order of business shall be arranged as a separate section of the programme.

Sec. 3. Each component association shall be entitled to send to the House of Delegates each year, one delegate for every thirty-five members, or any part of that number.

Sec. 4. Fifteen delegates shall constitute a quorum.

Sec. 5. It shall, through its officers, Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Society, and shall constantly strive to make each annual session a stepping-stone to further advancement.

Sec. 6. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 7. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interests in such county associations as already exist and for organizing the profession in counties where associations do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county in the State who can be made reputable has been brought under medical society influence.

Sec. 8. It shall encourage post-graduate and research work, as well as home study, and shall endeavor to have the results discussed and utilized.

Sec. 9. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

Sec. 10. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates.

Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Sec. 11. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

Sec. 12. Sections and District Societies. The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such Councilor District Associations as will promote the best interests of the profession, such associations to be composed exclusively of members of component county associations.

CHAPTER IV.—SESSIONS AND MEETINGS.

Section 1. The Society shall hold an annual session, during which there shall be held daily General Meetings which shall be open to all registered members, guests and honorary members.

Sec. 2. The time and place for holding each annual session shall be fixed by the House of Delegates.

Sec. 3. Special meetings of either the Society or the House of Delegates shall be called by the President, on petition of ten (10) delegates or fifty (50) members.

Sec. 4. General Meetings. All registered members may attend and participate in the proceedings and discussions of the General Meetings and of the Sections. The General Meetings shall be presided over by the President or by one of the Vice Presidents, and before them shall be delivered the address of the President and the orations.

Sec. 5. The General Meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigation of special interest and importance to the profession and the public.

CHAPTER V.—OFFICERS.

Section 1. The Officers of this Society shall be a President, two Vice Presidents, a Secretary, a Treasurer, and eight Councilors.

Sec. 2. The officers, except the Councilors, shall be elected annually. The first Councilors shall be appointed by the President, one from each county, who shall serve for one year, or until their successors shall be elected. At their annual meetings in the year 1906, each affiliated county medical association shall elect one councilor, of whom those elected in Hartford, New London, Windham, and Middlesex counties shall serve for one year, and those elected in New Haven, Fairfield, Litchfield, and Tolland counties shall serve for two years, and at the expiration of the term of office of the councilors so elected, each affiliated county medical association shall, biennially, elect a councilor, who shall serve for two years.

Sec. 3. All elections shall be by ballot, and a majority of the votes cast shall be necessary to elect.

Sec. 4. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session, but no delegate shall be eligible to any office named in the preceding section except that of councilor, and no person shall be elected to any such office who has not been a member of the Society for the past two years.

CHAPTER VI.—DUTIES OF OFFICERS.

Section 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such times as may be arranged, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office and, as far as practicable, shall visit by appointment the various sections of the State and assist the Councilors in building up the county associations and in making their work more practical and useful.

Sec. 2. The Vice Presidents shall assist the President in the discharge of his duties. In the event of the President's death, resignation, or removal, the Council shall select one of the Vice Presidents to succeed him.

Sec. 3. The Treasurer shall give bond in the sum of \$1,000, the manner of bonding to be left to the Council. He shall demand and receive all funds due the Society, together with the bequests and donations. He shall pay money out of the treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Sec. 4. The Secretary shall attend the General Meetings of the Society and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record books and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates of the annual sessions. He shall, with the coöperation of the secretaries of the component associations, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county association, and, on request, shall transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county associations and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates, and shall make an annual report to the House of Delegates. He shall supply each component association with the necessary blanks for making their annual reports. Acting with the Committee on Scientific Work, he shall prepare and issue all programmes. The amount of his salary shall be fixed by the Council.

CHAPTER VII.—COUNCIL.

Section 1. The Council shall consist of one Councilor from each county and the President and Secretary *ex officio*. It shall be the Finance Committee of the House of Delegates. Five Councilors shall constitute a quorum.

The Board of Councilors shall appoint from its own members two members who, with the Treasurer of the Society, shall constitute a sub-committee to be designated a Committee on the Permanent Funds, whose duty it shall be to advise on the investment of such funds as the Society may have or receive by bequest or donation, according to the laws of the State of Connecticut governing trust funds. This committee shall, through the Chairman of the Council, recommend to the House of Delegates the disposition to be made of the permanent funds, both principal and income.

Sec. 2. The Council shall meet daily during the session, and at such other times as necessity may require, subject to the call of the chairman or on petition of three Councilors. It shall meet on the last day of the annual session of the Society to organize and outline work for the ensuing year. It shall elect a chairman and a clerk, who, in the absence of the Secretary of the Society, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates.

Sec. 3. The Board of Councilors shall constitute the nominating committee of the Society. They shall report as such to the House of Delegates on the first day of the general session. After the report has been submitted an opportunity shall be given for other nominations to be made.

Sec. 4. Each Councilor shall be organizer, peacemaker, and censor for his district. He shall visit the counties in his district at least once a year for the purpose of organizing component associations where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of the county associations and their members. He shall make an annual report of his work and of the condition of the profession

of each county in his district at the annual session of the House of Delegates.

Sec. 5. The Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component associations, or to this Society. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component associations on which an appeal is taken from the decision of an individual Councilor, and its decision in all such matters shall be final.

Sec. 6. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions, and memoirs of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Society. As the Finance Committee, it shall annually audit the accounts of the Treasurer and Secretary and other agents of this Society, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of this Society during the year, and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary or the Treasurer, the Council shall fill the vacancy until the next annual election.

CHAPTER VIII.—COMMITTEES.

Section I. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Medical Examination and Medical Education.

A Committee on Honorary Members and Degrees.

A Committee on Arrangements, and such other committees as

may be necessary. Such committees shall be elected by the House of Delegates unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates. Fifteen days previous to each annual session it shall prepare and issue a programme announcing the order in which papers, discussions and other business shall be presented.

Sec. 3. The Committee on Public Policy and Legislation shall consist of one member from each component association, and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state, and national affairs and elections.

Sec. 4. The Committee on Medical Examination and Medical Education shall consist of five members, who shall be appointed in accordance with Sec. 4717 of the general statutes of the State of Connecticut. The committee shall conduct the medical examination of candidates for certificates of qualifications for license to practice medicine in the State in accord with the requirements of the Medical Practice Act. It shall annually present a written report to the House of Delegates. The committee shall also be a committee on medical education and shall coöperate with the council of education of the American Medical Association in the effort to elevate the standard of medical education in the United States.

Sec. 5. The Committee on Honorary Members and Degrees may present annually to the House of Delegates the names of not more than three eminent physicians, not residents of this state, as candidates for honorary membership in this Society. Such candidates may be elected honorary members in accordance with the provisions of Chap. I, Sec. 8, of the By-Laws.

Sec. 6. The Committee on Arrangements shall be appointed by the component association in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Society and of the House of Delegates, and of their respective committees. Its chairman shall report an outline of the arrangements to the Secretary for publication in the programme, and shall make additional announcements during the session as occasion may require.

CHAPTER IX.—RECIPROCITY OF MEMBERSHIP WITH OTHER STATE SOCIETIES.

In order to broaden professional fellowship, this Society is ready to arrange with other State Medical Societies for an interchange of certificates of membership, so that members moving from one State to another may avoid the formality of reëlection.

CHAPTER X.—FUNDS AND EXPENSES.

Funds shall be raised by an equal per capita assessment on each component association. The amount of the annual assessment per member shall be fixed by the House of Delegates.

Funds may also be raised by voluntary contributions, for the Society's publications, and in any other manner approved by the House of Delegates. Funds may be appropriated by the House of Delegates to defray the expenses of the Society, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be referred to the Finance Committee before action is taken thereon.

CHAPTER XI.—REFERENDUM.

Section 1. A General Meeting of the Society may, by a two-thirds vote of the members present, order a general referendum on any question pending before the House of Delegates, and when so ordered the House of Delegates shall submit such question to the members of the Society, who may vote by mail or in person, and, if the members voting shall comprise a majority of all the

members of the Society, a majority of such vote shall determine the question and be binding on the House of Delegates.

Sec. 2. The House of Delegates may, by a two-thirds vote of its members present, submit any question before it to a general referendum, as provided in the preceding section, and the result shall be binding on the House of Delegates.

CHAPTER XII.—COUNTY ASSOCIATIONS.

Section 1. All County Associations now in affiliation with the Connecticut Medical Society shall be component parts of this Society.

Sec. 2. Each County Association shall judge of the qualification of its members, but as such associations are the only portals to this Society and to the American Medical Association, all reputable and legally registered physicians, except those who practice or claim to practice or lend support to any exclusive or irregular system of medicine, shall be entitled to membership.

No physician shall be admitted to or retain membership in a County Medical Association after the expiration of his present contract who has agreed to furnish medical services to any organization or union for a stipulated sum per member, or for other consideration than the regular local fee for such services.

Sec. 3. Any County Medical Association may suspend or expel any member who is guilty of improper or unprofessional conduct, by a two-thirds vote of the members present and voting at any regular meeting, provided due notice has been given on the programme of said meeting at least ten days before its session. When from any cause a member of the Connecticut State Medical Society ceases to be a member of one of the component county medical associations, his membership in the Connecticut State Medical Society shall terminate, but any physician who may feel aggrieved by the action of the association of his county in refusing him membership or in suspending or expelling him, shall have the right to appeal to the Council, and its decision shall be final.

Sec. 4. In hearing appeals the Council may admit oral or

written evidence as in its judgment will be best and to most fairly present the facts, but in case of every appeal, both as a Board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 5. When a member in good standing in a component association moves to another county in this state, his name, on request, shall be transferred, without cost, to the roster of the county into whose jurisdiction he moves.

Sec. 6. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the association in whose jurisdiction he resides.

Sec. 7. Each component association shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral, and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 8. At some meeting in advance of the annual session of this Society, each county association shall elect a delegate or delegates to represent it in the House of Delegates of this Society in the proportion of one delegate to each thirty-five members, or any part of that number, and the Secretary of the Association shall send a list of such delegates to the Secretary of this Society at least twenty days before the annual session.

In the case of death, illness or disability of a Councilor or delegate, the President of the County Association in which the vacancy occurs shall appoint a substitute Councilor or delegate, with full power to represent his county during the Councilor's or delegate's disability, or until the successor of such appointee is elected at the next meeting of the County Medical Association.

Sec. 9. The Secretary of each component association shall keep a roster of its members and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of registration in

this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 10. The fiscal year of the Society shall terminate on April 30 of each year.

On or before May 10 of each year the Secretary of each component association shall make a report to the Treasurer of the Society on a blank provided by the Treasurer for that purpose, stating, 1st, the number of members from his county and the number exempt; 2d, the total amount collected on the tax of that fiscal year; the amount collected during the year on taxes in arrears; the amount of taxes still in arrears for one year previous; the amount in arrears for two years previous, together with a check to cover the above mentioned collections.

The bills for the tax laid at the annual meeting shall be sent to each member by the respective county clerks on the first day of June of each year.

The clerk of each component association shall forward its roster of officers and list of members and of non-affiliated physicians to the Secretary and Treasurer of this Society each year within five days after the annual session of his county association.

Sec. 11. The several county medical associations shall have power to adjourn; to call special meetings, as they shall deem expedient; and to adopt such by-laws as they find desirable, not contrary to the laws of this State or the charter and by-laws of The Connecticut State Medical Society.

CHAPTER XIII.—MISCELLANEOUS.

Section 1. No address or paper before this Society, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject except by unanimous consent.

Sec. 2. All papers read before the Society or any of the Sections shall become its property. Each paper shall be deposited with the Secretary before reading. No paper shall be read before this Society which has been previously published or read before any other organization.

Sec. 3. The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with the charter and by-laws.

Sec. 4. The Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XIV.—AMENDMENTS.

These By-Laws may be amended at any annual session by a majority vote of all delegates present at that session, after the amendment has been laid on the table until the next annual session. If, however, the proposed alteration has been published in the notice of the session, it may be acted upon after it has laid on the table one day.

MEMBERS OF THE
CONNECTICUT STATE MEDICAL
SOCIETY.

1920.

MEMBERS OF THE SOCIETY.

HONORARY MEMBERS.

1890	WILLIAM HENRY WELCH.....	Baltimore, Md.
1891	ROBERT FULTON WEIR.....	Hague, N. Y.
1894	HON. CHARLES E. GROSS.....	Hartford, Conn.
1894	DAVID WEBSTER.....	New York City, N. Y.
1895	HENRY O. MARCY.....	Boston, Mass.
1896	T. MITCHELL PRUDDEN.....	New York City, N. Y.
1896	WILLIAM W. KEEN.....	Philadelphia, Pa.
1903	REYNOLD WEBB WILCOX.....	New York City, N. Y.
1914	WILLIAM C. GORGAS.....	Washington, D. C.
1917	RICHARD P. STRONG.....	Boston, Mass.
1917	HERMANN M. BIGGS.....	Albany, N. Y.
1918	HARVEY CUSHING.....	Boston, Mass.

ACTIVE MEMBERS.

This list is corrected to the date of the Annual Meetings of the
County Societies, April, 1920.

FAIRFIELD COUNTY.

President, ELI B. IVES, M.D., Bridgeport.

Vice President, FRITZ C. HYDE, M.D., Greenwich.

Secretary, C. V. CALVIN, M.D., 294 West Avenue, Bridgeport.

Councilor, FRANK W. STEVENS, M.D., Bridgeport.

Censors, FRANK M. TUKEY, M.D., F. I. NETTLETON, M.D.,
GEORGE R. HERTZBERG, M.D.

Annual Meeting, Second Tuesday in April, at Bridgeport;
Semi-Annual, Second Tuesday in October.

BETHEL.

- 1872 Barber, Alvin Elizur.
1899 Wight, George DeWitt

BRIDGEPORT.

- 1896 Adams, Frederick Joseph.....339 West ave.
1916 Banks, Daniel Tony.....254 E. Main
1913 Beaudry, Joseph Horace.....835 State
1913 Bernstein, Abraham.....472 State
1904 Bill, Philip Worcester.....Professional Bldg.
1900 Blank, Elmer Francis.....387 Noble ave.
1886 Blodget, Henry.....819 Myrtle ave.
1880 Bowers, William Cutler.....336 State
1919 Calvin, Claudius Virgil.....294 West ave.
1920 Carroll, Francis Patrick.....1310 Park ave.
1914 Clarke, Harold Metcalf.....477 State
1916 Cohen, Joseph.....1130 Stratford ave.
1906 Coops, Frank Harvey.....386 John
1891 Cowell, George B.....409 Noble ave.
1913 Curley, William Henry.....725 Park ave.
1908 Curran, Philip John.....Professional Bldg.

1894	Day, Fessenden Lorenzo.....	819 Myrtle ave.
1920	DeLuca, Horatio Roger.....	763 Noble ave.
1888	DeWolfe, Daniel Charles.....	516 Fairfield ave.
1914	Duesing, Herman.....	1169 E. Main
1916	Dupee, Edward Wilson.....	1093 Park ave.
1898	Ellis, Thomas Long.....	332 West ave.
1913	Finkelstone, Benjamin Brooks.....	346 State
1915	Finnegan, John Hamill.....	1116 Stratford ave.
1895	Fitzgerald, Edward.....	526 E. Washington ave.
1897	Fleck, Harry Willard.....	897 Lafayette
1914	Flynn, John Francis.....	72 Franklin
1895	Ford, George Skiff.....	522 Fairfield ave.
1908	Formichelli, Giovanni.....	654 Pembroke
1916	Gade, Carl Johannes.....	525 State
1907	Gardner, Charles Wesley.....	449 State
1916	Garlick, George Burroughs.....	474 State
1878	Garlick, Samuel Middleton.....	474 State
1916	Gilday, James Lowrey.....	952 State
1884	Godfrey, Charles Cartlidge.....	340 State
1895	Gold, James Douglass.....	839 Myrtle ave.
1908	Greenstein, Morris Jacob	572 Bostwick ave.
1916	Griffin, Daniel Patrick.....	1350 E. Main
1913	Hale, Fraray	477 State
1914	Hart, Benjamin Ide.....	451 State
1920	Havey, Leroy Austin.....	329 West ave.
1909	Hawley, George Waller.....	Professional Bldg.
1916	Healy, Thomas Francis.....	25 Yale
1915	Hippolitus, Paul DiFrancesca.....	255 Barnum ave.
1916	Horn, Martin Isidore.....	815 North ave.
1917	Horwitz, Morris Thomas.....	986 Stratford ave.
1912	Hyde, Charles Elias.....	Professional Bldg.
1906	Ives, Eli Butler.....	284 West ave.
1898	Johnson, John Murray....	276 West ave.
1912	LaField, William Arthur.....	Professional Bldg.
1913	Lambert, Henry Bertram.....	Professional Bldg.
1904	Leverty, Charles Joseph.....	42 James
1895	Lockhart, Reuben Arthur.....	760 Washington ave.
1887	Lynch, John Charles.....	826 Myrtle ave.
1904	Lynch, Robert Joseph.....	52 Courtland
1914	McCarthy, Daniel Joseph.....	778 Washington ave.
1913	McGovern, Edward Francis.....	906 Lafayette
1913	McQueeney, Andrew.....	700 Noble ave.
1892	Miles, Henry Shillingford.....	417 State
1901	Nettleton, Irving LaField.....	775 Washington ave.

1919	Neumann, Henry Aaron.....	1635 Fairfield ave.
1891	Ober, George Eugene.....	Professional Bldg.
1894	O'Hara, William James Aloysius.....	361 Barnum ave.
1888	Osborn, George Wakeman.....	888 Broad
1909	Patterson, Daniel Cleveland.....	Professional Bldg.
1913	Peters, Henry LeBaron.....	871 Park ave.
1917	Powers, John Thomas Haliburton.....	1069 Barnum ave.
1907	Pratt, Nathan Tolles.....	1221 Stratford ave.
1905	Pyle, Francis Winthrop.....	Professional Bldg.
1916	Quinn, John Francis.....	225 Colorado ave.
1916	Reich, Upton Sharetts.....	2162 N. Main
1918	Roberts, Edward Russell.....	Professional Bldg.
1913	Roche, Thomas Joseph.....	727 Park ave.
1913	Rowe, Michael Joseph.....	521 State
1913	Sansome, Nicola Maria.....	430 State
1906	Schulz, Herman Samuel.....	906 Lafayette
1914	Scrimgeour, Arthur.....	Professional Bldg.
1913	Shea, John Francis.....	1254 E. Main
1920	Simonson, Louis.....	529 E. Main
1903	Smith, Dorland.....	834 Myrtle ave.
1902	Smith, Edwards Montrose.....	340 State
1902	Smith, Frank Llewellyn.....	2178 Main
1919	Smith, Stanton Reinhart.....	Professional Bldg.
1913	Smykowski, Bronislaw Louis.....	405 Barnum ave.
1898	Smyth, Herbert Edmund	376 John
1909	Sprague, Charles Harry.....	29 Hanover
1903	Stevens, Frank William.....	829 Myrtle ave.
1919	Strang, Robert Hallock Wright.....	886 Main
1888	Topping, Jacob Reed.....	349 Noble ave.
1898	Townsend, Charles Rodman.....	446 State
1897	Trecartin, David Munson.....	Professional Bldg.
1895	Tukey, Frank Martin.....	Professional Bldg.
1903	Warner, George Howell.....	Professional Bldg.
1902	Wason, David Boughton.....	Professional Bldg.
1904	Waterhouse, Henry Edwin.....	30 Elmwood pl.
1906	Watson, William Clark.....	446 Stratford ave.
1920	Watts, Joseph Francis.....	518 Fairfield Ave.
1913	Weadon, William Lee.....	810 Myrtle ave.
1914	Weldon, Edwin Bernard.....	327 Broad
1889	White, Benjamin Walker.....	477 State
1919	Wilkes, LeRoy Augustus.....	Dept. Health
1919	Williams, Fred S.	911 Fairfield ave.
1880	Wright, John Winthrop.....	810 Myrtle ave.

DANBURY.

1902	Bronson, William Thaddeus.....	41	West
1888	Brown, David Chester.....	330	Main
1891	Brownlee, Harris Fenton.....	342	Main
1896	Craig, Charles Franklin.....		
1906	English, Richard Matthew.....	39	West
1897	Gordon, William Francis.....	26	West
1885	Lemmer, George Edward.....	153½	Main
1912	Moore, Howard Delano.....	203	Main
1912	Mullins, Samuel Frederick.....	116	Main
1911	Scofield, Everett J. S.	294	Main
1913	Smith, Arthur Charles.....	268	Main
1907	Sunderland, Paul Ulysses.....	160	Deer Hill ave.

DARIEN.

1897	Noxon, George Henry.
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NOROTON.

1919	Hipkiss, George.
1908	Hoyt, Harold Eliphalet.

FAIRFIELD.

1883	Donaldson, William Henry.
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GREENFIELD HILL.

1877	Dunham, Martin VanBuren.
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GREENWICH.

1894	Brooks, Frank Terry.....		Rock Ridge
1905	Burke, William.....	153	Mason
1904	Clarke, John Alexander.....	92	Mason
1917	Gates, Aaron Billings.....	160	Milbank ave.
1887	Griswold, William Loomis.....	19	W. Elm
1902	Hyde, Fritz Carleton.....		Putnam St. and Maple ave.
1905	Hyde, Harriet Baker.....		Putnam St. and Maple ave.
1918	Knapp, Charles Whittemore.....	43	Maple ave.
1916	Knowlton, Don Jerome.....	83	E. Putnam ave.
1909	Parker, Edward Oliver.....	68	E. Putnam ave.

SOUND BEACH.

1914	Austin, Albert Elmer.
1909	Finch, Sarah Elizabeth.

HUNTINGTON.

SHELTON.

1912	Black, John Eugene.....	40	White
1917	Finn, Edward James.....	492	Howe ave.
1900	Nettleton, Francis Irving.....	35	White
1895	Randall, William Sherman.....	241	Coram ave.
1869	Shelton, Gould Abijah.....	40	White

MONROE.

STEPNEY DEPOT.

1912	Wales, Frank Joseph.
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NEW CANAAN.

1899	Brooks, Myre Joel.
1909	Keeler, Charles B.
1908	O'Shaughnessy, Edmund Joseph.
1911	Wheelock, Albert Andrews.

NORWALK.

1906	Coburn, Jesse Milton.....	55	South Main
1916	Cram, George Eversleigh.....	85	Wall
1873	Gregory, James Glynn.....	5	West ave.
1907	Hitchcock, Walter	9	West ave.
1880	Huntington, Samuel Henry.....	133	Main
1915	Kellogg, Henry Kirke White.....	5	West ave.
1894	Meek, James Albert.....	72	West ave.
1890	Tracey, William Joseph.....	23	West ave.
1904	Turner, Arthur Robert.....	8	West ave.

SOUTH NORWALK.

1894	Allen Lauren Melville.....	15	Washington
1894	Bohannon, Charles Gordon.....	64	South Main
1918	Bradley, Theron Robert.....	11	Washington
1906	Burnell, Francis Edwin.....	67	South Main
1896	Sherer, Henry Clifford.....	1	Washington

REDDING.

1896	Smith, Ernest Herman.
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GEORGETOWN.

1917	Deming, William Champion.
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RIDGEFIELD.

- 1917 Allen, Henry Willard.
 1912 Bryon, Benn Adelmer.

STAMFORD.

- 1907 Avery, John Waite.....295 Atlantic
 1907 Barnes, Frank Hazelhurst.....North Stamford rd.
 1912 Carroll, Isaiah Francis.....44 Willow
 1904 Cloonan, John Joseph.....37 South
 1916 Costanzo, James Joseph.....384 Atlantic
 1909 Crane, Ralph William.....107 South
 1909 Dichter, Charles Levi.....19 St. John's pl.
 1904 Foster, Dean.....400 Atlantic
 1913 Gandy, Raymond Reeves.....57 Broad
 1909 Godfrey, William Truitt.....88 South
 1908 Harrison, John Francis.....507 Atlantic
 1916 Henderson, Alfred Collard.....17 Suburban ave.
 1901 Hertzberg, George Robert.....40 South
 1918 Hewitt, Alfred Frank.....568 Main
 1908 House, Albert Lewis.....11 Bedford
 1881 Hurlbut, Augustin Moen.....Main & South
 1904 MacLean, Donald Robert.....87 South
 1911 Nemoitin, Julius.....96 Main
 1885 Phillips, Alfred Noroton.....Glenbrook
 1885 Pierson, Samuel.....61 Broad
 1917 Platt, Daniel Phillips.. 17 Suburban ave.
 1893 Rice, Watson Emmons.....192 Summer
 1891 Schavoir, Frederick.....38 Willow
 1894 Sherrill, George.....700 Main
 1909 Shirk, Samuel Martin.....87 Broad
 1917 Smith, William Earl.....400 Atlantic
 1907 Staub, John Howard.....100 South
 1869 VanVleet, Peter P.....228 Summer
 1919 Weaver, Bruce Stevens.....Stamford Hosp.

SPRINGDALE.

- 1920 Keeler, Maxwell Gordon.

STRATFORD.

- 1884 Cogswell, William Badger.....2252 Main
 1914 Curtis, Rollin Alanson.....2275 Elm
 1909 Howland, DeRuyter.....E. Broadway & Main
 1885 Lewis, George Frederick.....952 E. Broadway

TRUMBULL.

LONG HILL.

1912 Smith, George Arthur.

WESTON.

LYONS PLAINS.

1877 Gorham, Frank.

WESTPORT.

1915 Brodsky, Emanuel Schlema.

1913 McLaury, Frank Harold.

1898 Nolan, Jacob Matthew.

1891 Ruland, Frederick Davis.

GREEN'S FARMS.

1920 Cowen, Melville Eugene.

1893 McFarland, David Walter.

OUT OF COUNTY.

1917 Davis, George Anthony.....1138 Chapel, New Haven

1917 Heady, Carlton Kellogg.....48 Broad st., Milford

1914 MacDonald, John Joseph.....Jersey City, N. J.

1913 Sherman, Florence Adelaide.....Address unknown

Walsh, Joseph William.....Portland

Total Number 206

HARTFORD COUNTY.

President, ERNEST R. WELLS, M.D., Hartford.*Vice President*, THOMAS G. ALCORN, M.D., Thompsonville.*Secretary*, C. BREWSTER BRAINARD, M.D., 30 Farmington Ave., Hartford.*Councilor*, WALTER R. STEINER, M.D., Hartford.*Censors*, ORIN MOSHER, M.D., HENRY F. STOLL, M.D.,

T. EBEN REEKS, M.D.

Annual Meeting, First Tuesday in April; Semi-Annual Meeting,
Fourth Tuesday in October.

AVON.

1912 Morse, Vernon Harcourt Chipman.

BERLIN.

EAST BERLIN.

1908 Hodgson, Thomas Cady.

KENSINGTON.

1877 Griswold, Roger Matthew.

BRISTOL.

1900 Brackett, Arthur Stone.

1916 Upson, Charles Ransom.

1909 Whipple, Benedict Nolasco.

CANTON.

COLLINSVILLE.

1906 Cox, Ralph Benjamin.

1917 Kilbourn, Carl James.

EAST HARTFORD.

1890 Mayberry, Franklin Hayden.

1893 O'Connell, Thomas Smith.

1916 Onderdonk, Harry Jay.

1912 Truex, Edward Hamilton.

EAST WINDSOR.

BROAD BROOK.

1879 Allen, Howard Oliver.

1904 Backus, Harold Simeon.

1898 Deane, Henry Augustus.

ENFIELD.

THOMPSONVILLE.

1909 Alcorn, Thomas Grant.

1906 Bridge, John Law.

1906 Dowd, Michael Joseph.

1878 Finch, George Terwilliger.

1916 Simonton, Frank F.

1917 Vail, Edwin Smith.

1917 Vail, Thornton E.

FARMINGTON.

1909 Griswold, Arthur Heywood.

1912 Phelps, Stuart E.

UNIONVILLE.

1912 Morrissey, William Thomas.

GLASTONBURY.

SOUTH GLASTONBURY.

1897 Rising, Harry Breed.

HARTFORD.

1883	Abrams, Alva Elnathan.....	54	Church
1904	Adams, Henry Eli.....	194	High
1884	Alton, Charles DeLancey.....	75	Pratt
1881	Axtelle, John Franklin.....	561	Main
1895	Bailey, Michael Angelo.....	438	Main
1913	Bailey, Neil Herbert.....	248	Laurel
1889	Barrows, Benjamin Safford.....	164	High
1886	Beach, Charles Coffing.....	54	Woodland
1907	Beach, Charles Thomas.....	75	Pratt
1894	Bell, George Newton.....	44	High
1909	Bickford, Henry.....	57	Magnolia
1913	Biram, James Harrington.....	54	Church
1913	Birdsong, Julian Lee.....	365	Church
1907	Blair, Edward Holden.....	302	Church
1909	Borden, Charles Herbert.....	36	Pearl
1897	Botsford, Charles Porter.....	219	Collins
1907	Boucher, James Joseph.....	54	Church
1896	Boucher, John Bernard.....	25	Charter Oak ave.
1920	Boyce, Robert Valentine.....	17	Sisson ave.
1913	Boyle, Robert Joseph.....	902	Main
1905	Bradley, Mark Spaulding.....	36	Pearl
1903	Brainard, Clifford Brewster.....	30	Farmington ave.
1916	Branon, Anthony William.....	112	High
1912	Brayton, Howard Wheaton.....	44	High
1920	Bressler, Jacob Louis.....	902	Main
1896	Bunce, Philip Dibble.....	30	Farmington ave.
1914	Cantarow, Daniel.....	73	Windsor
1915	Carter, Earl Buel.....	137	High
1898	Chester, Thomas Weston.....	50	Farmington ave.
1905	Clifton, Harry Colman.....	30	Farmington ave.
1896	Cochran, Levi Bennett.....	50	Farmington ave.
1913	Cogswell, Eliot Sanborn.....	232	Church
1904	Conklin, James Henry.....	89	Pratt
1889	Cook, Ansel Granville.....	54	Pratt
1913	Costello, Henry Nicholas.....	148	High

1899	Crossfield, Frederick Solon.....	75	Pratt
1913	Crowley, William Holmes.....	15	Charter Oak ave.
1920	Daley, William Patrick.....	98	Ann
1914	Daly, Charles William.....	429	Capitol ave.
1909	DeBonis, Domenico A.	94	Windsor
1914	Deming, Clinton Demas.....	29	Wethersfield ave.
1914	Deming, Edward Adams.....	1	Spring
1896	Dickerman, Wilton Elias.....	30	Farmington ave.
1892	Dowling, John Francis.....	54	Church
1910	Dwyer, Richard Joseph.....	186	Franklin ave.
1916	Dwyer, William.....	18	Asylum
1915	Elliott, Calvin Hayes.....	137	High
1895	Elmer, Edward Oliver.....	805	Park
1914	Emmett, Francis Arthur.....	120	Ann
1900	Enders, Thomas Burnham.....	3	Highland
1919	Fay, William James.....	580	Asylum ave.
1898	Felty, John Wellington.....	902	Main
1911	Fischer, Abraham.....	561	Albany ave.
1906	Fitzgerald, William Henry... .	904	Main
1913	Flaherty, Claude Vincent.....	305	Park
1919	Furniss, Henry Walton.....	1329	Main
1916	Gallivan, Thomas Henry.....	18	Asylum ave.
1898	Gill, Michael Henry.....	36	Pearl
1879	Gladwin, Ellen Hammond.....	705	Asylum ave.
1900	Goodrich, Charles Augustus.....	5	Haynes
1908	Griggs, John Bagg.....	1380	Asylum ave.
1895	Hall, Joseph Barnard.....	36	Pearl
1913	Harrington, Amos Thomas.....	137	High
1908	Hatheway, Clarence Morris.....	110	High
1909	Haylett, Howard Bulkley.....	137	High
1907	Hepburn, Thomas Norval.....	42	High
1906	Heublein, Arthur Carl.....	42	High
1919	Higgins, Joseph Ambrose.....	25	Charter Oak ave.
1920	Hurwitz, Herman Max.....	112	Windsor ave.
1917	Hutchinson, James Elder.....	36	Pearl
1882	Ingalls, Phineas Henry.....	49	Pearl
1912	Jarvis, Henry Gildersleeve.....	42	High
1889	Kane, Thomas Francis.....	517	Main
1908	Keith, Albert Russell.....	50	Farmington ave.
1898	Kilbourn, Joseph Austin.....	271	Park
1920	Kilbourn, Joseph Birney.....	112	High
1906	Kingsbury, Isaac William.....	36	Pearl
1877	Knight, William Ward.....	254	Trumbull
1901	Lampson, Edward Rutledge.....	137	High

1913	Landry, Arthur Bernard.....	50 Farmington ave.
1895	Lawton, Franklin Lyman.....	295 Main
1915	Locke, Harry Leslie Franklin.....	1 Spring
1916	Lynch, James Francis.....	190 Church
1910	McClellan, William Ernest.....	18 Asylum
1898	McCook, John Butler.....	390 Main
1901	McKee, Frederick Lyman.....	68 Pratt
1907	McPartland, Patrick Farrell.....	1305 Main
1916	McPherson, Sidney Horace.....	803 Main
1913	Madden, Leon Irving.....	54 Church
1919	Maislen, Samuel.....	356 Windsor ave.
1907	Martelle, Henry Augustus.....	P. O. Box 9
1914	Meagher, William Francis.....	75 Francis ave.
1886	Miller, George Root.....	151 Church
1916	Miller, James Raglan.....	353 Church
1901	Miller, William Radley.....	54 Church
1908	Molumphy, David James.....	517 Main
1880	Morgan, William Dennison.....	49 Pearl
1909	Morrissey, Michael Joseph.....	18 Asylum
1919	Murphy, James Edw.	50 Farmington ave.
1893	Murphy, Walter Graham.....	75 Pratt
1897	Naylor, James Henry.....	11 Main
1916	O'Brien, Joseph Francis.....	18 Asylum
1902	O'Flaherty, Ellen Pembroke.....	140 Main
1908	Outerson, Andrew Mausergh.....	350 Church
1904	Owens, William Thomas.....	703 Main
1919	Parker, John Woodcock.....	241 Laurel
1916	Parker, Spotswood Hayes.....	700 Main
1905	Pierson, John Corbin.....	50 Windsor ave.
1885	Porter, William, Jr.	179 Allyn
1920	Quaglia, Michael.....	68 Ann
1916	Radom, Fannie.....	244 Windsor
1913	Reardon, William Francis.....	803 Main
1900	Reinert, Emil Gustav.....	109 Ann
1916	Reynolds, Harry Stephen.....	683 Asylum
1907	Ronayne, Frank Joseph.....	190 Church
1909	Rooney, James Francis.....	308 Park
1883	Root, Edward King.....	49 Pearl
1884	Root, Joseph Edward.....	67 Pearl
1900	Rowley, Alfred Merriman.....	803 Main
1910	Rowley, John Carter.....	50 Farmington ave.
1907	Rowley, Robert Lee.....	49 Pearl
1911	Russ, Henry Camp.....	114 Woodland
1902	Ryan, Patrick Joseph.....	316 Park

1916	Sagarino, John Francis.....	298 Church
1920	Schaefer, Jacob.....	30 Farmington ave.
1887	Segur, Gideon Cross.....	67 Farmington ave.
1920	Shafer, Alexander.....	1263 Main
1920	Shea, Daniel Edward.....	54 Church
1886	Simpson, Frederick Thomas.....	799 Asylum ave.
1901	Smith, Earl Terry.....	36 Pearl
1897	Standish, James Herbert.....	479 Albany ave.
1905	Starr, Robert Sythoss.....	75 Pratt
1894	Stern, Charles Seymour.....	75 Pratt
1902	Steiner, Walter Ralph.....	646 Asylum ave.
1905	Stoll, Henry Farnam.....	Sage Allen Bldg.
1903	Storrs, Eckley Raynor.....	179 Allyn
1914	Strobel, Joseph Eugene.....	State Sanatorium
1892	Sullivan, Daniel Francis.....	190 Church
1908	Swan, Horace Cheney.....	196 Whitney
1914	Sweet, John Henry Throop.....	232 Church
1905	Swett, Paul Plummer.....	803 Main
1888	Taft, Charles Ezra.....	50 Farmington ave.
1906	Taylor, Maude Winifred.....	107 Edwards
1898	Thompson, Emma Jane.....	154 Church
1906	Thompson, Whitefield Nelson.....	400 Washington
1911	Tracy, Dwight Wallace.....	5 Wethersfield ave.
1908	Tuch, Morris.....	1333 Main
1919	Tucker, George Eugene.....	Ætna Life Ins. Co.
1907	Turbert, Edward Joseph.....	30 Sisson ave.
1908	Vail, George Francis.....	36 Pearl
1904	VanStrander, William Harold.....	179 Church
1917	Vernlund, Carl Frithof.....	211 Church
1894	Waite, Frank Lewis.....	68 Pratt
1914	Waite, Robert Lester.....	68 Pratt
1908	Ward, James Ward.....	437 Capitol ave.
1909	Waterman, Paul.....	137 High
1895	Waters, John Bradford.....	281 Trumbull
1901	Weidner, Calvin.....	54 Church
1895	Weir, Janet Marshall.....	282 Sigourney
1882	Welch, George Kellogg.....	26 State
1907	Welch, Thomas Francis.....	356 Windsor
1920	Weld, Stanley Burnham.....	156 High
1916	Wells, Donald Breckenridge.....	2 Garden
1903	Wells, Ernest Alden.....	2 Garden
1907	Wiedman, Otto George.....	137 High
1907	Wilson, James Cornelius.....	164 High
1904	Witter, Orin Russell.....	44 High

1889	Wolff, Arthur Jacob.....	904	Main
1916	Worthen, Thacher Washburn.....	54	Church
1912	Yergason, Robert Moseley.....	54	Church

MANCHESTER.

1909	Sharpe, Harry Rabe.
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SOUTH MANCHESTER.

1920	Allen, Edward Bartlett.
1917	Burlingame, C. Charles.
1905	Burr, Noah Arthur.
1916	Holmes, LeVerne.
1908	May, George William.
1916	Moore, Demarquis DeCasso Ye Rujo.
1911	Rice, Richard William.
1900	Sloan, Thomas George.
1880	Tinker, William Richard.
1893	Weldon, Thomas Henry.

NEW BRITAIN.

1909	Bodley, George Houghton.....	272	Main
1915	Bray, Henry Tierney	48	Court
1895	Clark, Robert Moses.....	27	Walnut
1913	Cooley, Clifton Mather.....	131	Main
1915	Dunn, George Washington.....	259	Main
1905	Froman, Ernest Theodore.....	272	Main
1914	Gillin, Charles Adelbert.....	183	Main
1892	Irving, Samuel Wellington.....	252	Main
1915	Kinsella, Gertrude Johnson.....	52	Main
1915	Kinsella, Michael Allen.....	52	Main
1908	Maloney, Maurice Washington.....	272	Main
1920	Mann, Fred James.....	28	Court
1909	Purney, John.....	140	Main
1912	Reeks, Thomas Eben.....	9	Franklin sq.
1919	Stockwell, William Myron.....	61	Harrison
1896	Strosser, Herman.....	59	Arch

PLAINVILLE.

1878	Bull, John Norris.
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ROCKY HILL.

1880	Griswold, Julius Egbert.
1904	Moser, Orin Alexander.

SIMSBURY.

1905 Carver, John Preston.

TARIFFVILLE.

1885 Wooster, Charles Morris.

SOUTHINGTON.

1887 Steadman, Willard George.

SUFFIELD.

1916 Brown, Harold Morris.

1906 Gibbs, Joseph Addison.

WEST SUFFIELD.

1896 Caldwell, William Ely.

1915 Levy, William.

WEST HARTFORD.

1908 Alcott, Ralph Waldo Emerson.....29 N. Main
 1910 Denne, Thomas Harman.....23 S. Main
 1902 Purinton, Charles Oscar.....12 S. Main
 1916 Wilson, McLeod C.665 Farmington ave.

WETHERSFIELD.

1883 Fox, Edward Gager.

1892 Howard, Arthur Wayland.

WINDSOR LOCKS.

1876 Coogan, Joseph Albert.

1914 Coyle, Anna Elizabeth Mulheron

1899 Coyle, William Joseph.

1906 Outerson, Richard.

1901 Robinson, Myron Potter.

OUT OF COUNTY.

1911 Cobb, Albert Edward.....Falls Village
 1877 Wright, Theodore Goodell...1090 St. Nicholas ave., New York City

Total Number 246

LITCHFIELD COUNTY.

President, FREDERICK W. WERSEBE, M.D., Washington.

Vice President, JOHN G. ADAM, M.D., Canaan.

Secretary, HARRY B. HANCHETT, M.D., 55 Main Street, Torrington.

Councilor, ELIAS PRATT, M.D., Torrington.

Censors, R. S. GOODWIN, M.D., H. B. WOODWARD, M.D.,
W. S. HULBERT, M.D.

Annual Meeting, Fourth Tuesday in April; Semi-Annual, First
Tuesday in October.

CANAAN.

FALLS VILLAGE.

- 1914 Shannon, Thomas J.
- 1905 Skiff, Francis Sands.

CORNWALL.

WEST CORNWALL.

- 1873 North, Joseph Howard.
- 1917 Stevens, Carrie North.

KENT.

- 1912 Turrill, Henry Smith.

LITCHFIELD.

- 1888 Buel, John Laidlaw.
- 1910 Deming, Nelson Lloyd.
- 1911 Marcy, Robert Adrian.
- 1890 Page, Charles Ithemar.
- 1875 Sedgwick, James T.
- 1910 Turkington, Charles Henry.
- 1896 Warner, Charles Norton.

NEW HARTFORD

- 1915 English, Chester Ferrin.

NEW MILFORD

- 1910 Bostwick, Benjamin Earle.
- 1919 Brennan, John Edward.
- 1893 Staub, George Edwards.
- 1905 Wright, George Herman.

NORFOLK.

- 1874 Dennis, Frederic Shepard.
 1890 Hamant, Irving Louis.
 1875 Kendall, John Calvin.
 1909 Pinney, Almon William.
 1919 Quintard, Edward.

NORTH CANAAN

CANAAN.

- 1902 Adam, John Geikie.
 1874 Camp, Charles Welford.
 1890 Lee, Frank Herbert.

PLYMOUTH.

TERRYVILLE.

- 1913 Lawton, Richard John.
 1919 Woodhouse, Lisle William.
 1914 Woodward, Harold Burton.

SALISBURY.

- 1917 Tuttle, Albert Lake.

LAKEVILLE.

- 1892 Bissell, William Bascom.

SHARON.

- 1882 Bassett, Clarence Wheeler.
 1904 Chaffee, Jerome Stuart.

THOMASTON.

- 1896 Goodwin, Ralph Schuyler.
 1903 Hazen, Robert.
 1910 Kane, James Hugh.

TORRINGTON.

- 1898 Barker, Abram James.....216 Main
 1898 Carlin, Charles Henry.....236 Main
 1917 Chapin, Harry Bailey.....10 Water
 1908 Hanchett, Harry Bigelow.....55 Main
 1917 Hoffman, Wallace Ellsworth.....28 Hoffman
 1903 Hogan, William John.....320 Main
 1917 Kennedy, William Clement.....38 Water
 1887 Moore, Howard Doolittle.....28 Daycoeton pl.

ACTIVE MEMBERS.

1915	Partree, Homer Tomlinson.....	72	Main
1881	Platt, William Logan.....	105	Main
1887	Pratt, Elias.....	27	Daycoeton pl.
1904	Ryan, Timothy Mayher.....	31	Water
1917	Thomson, Thomas Leonard.....	10	Water
1917	Tynan, James Joseph.....	79	Main
1917	Weed, Floyd Albert.....	13	Main

WASHINGTON.

1908 Wersebe, Frederick William.

NEW PRESTON.

1904 Stevens, Howard Granson.

WATERTOWN.

1919 Jackson, Charles Warren.
 1897 Loveland, Ernest Kilburn.
 1919 Reade, Edward Godwin.

WINCHESTER.

WINSTED.

1920 Cudworth, Clarence Dean.
 1915 Hartnett, Joseph Daniel.
 1883 Howd, Salmon Jennings.
 1880 Hulbert, William Sharon.
 1904 Kelsey, Ernest Russell.
 1884 Pratt, Edward Loomis.
 1903 Reidy, David Dillon.
 1912 Reidy, Maurice Joseph
 1918 Ward, Horace William.

WOODBURY.

1913 Allen, Howard Sanford.
 1897 Reynolds, William George.

OUT OF COUNTY.

1869 Bulkley, Lucius Duncan.....531 Madison ave., New York City
 1898 Robinson, Joseph.....140 Main st., New Britain
 1896 Wadhams, Sanford Hosea.....care Surgeon General, U. S. Army

Total Number 69

MIDDLESEX COUNTY.

President, JESSIE W. FISHER, M.D., Middletown.

Vice President, THOMAS P. WALSH, M.D., Middletown.

Secretary, JAMES H. KINGMAN, M.D., 139 Broad Street, Middletown.

Councilor, GEORGE N. LAWSON, M.D., Middle Haddam.

Censors, C. B. CHEDEL, M.D., JAMES T. MITCHELL, M.D.,

F. B. BRADEEN, M.D.

Annual Meeting, Second Thursday in April; Semi-Annual, Second Thursday in October.

CHESTER.

1889 Smith, Frederick Sumner.

CLINTON.

1903 Fox, David Austin.

CROMWELL.

1895 Bush, Charles Ellsworth.

1885 Hallock, Frank Kirkwood.

EAST HADDAM.

1890 Plumstead, Matthew Woodbury.

EAST HAMPTON.

1873 Field, Albert.

1907 Fitch, Frederick Tracy.

MIDDLE HADDAM.

1892 Lawson, George Newton.

ESSEX.

1903 Bradeen, Frederick Barton.

1908 Davis, Charles Clarence.

MIDDLEFIELD.

1919 Manship, Frances Petty.

MIDDLETOWN.

1886 Bailey, John Elmore.....6 Washington

1880 Calef, Jeremiah Francis.....151 Broad

ACTIVE MEMBERS.

1886	Campbell, Arthur Joseph.....	120	Washington
1916	Campbell, Sheldon Samuel Stratton.....	158	Broad
1912	Fauver, Edgar.....	55	Mt. Vernon
1900	Fisher, Jessie Weston.....	28	Crescent
1916	Haviland, Clarence Floyd.....		Connecticut State Hosp.
1904	Kingman, James Henry.....	139	Broad
1920	Leak, Roy Leighton.....		Connecticut State Hosp.
1910	Loewe, Leonard Joseph.....	135	S. Main
1893	Loveland, John Elijah.....	93	Broad
1896	Maitland, Lewis A.	54	Broad
1893	Mead, Kate Campbell.....	145	Broad
1903	Mitchell, James Thomas.....	109	Broad
1899	Mountain, John Henry.....	172	Washington
1896	Murphy, James.....	91	Broad
1896	Nolan, Daniel Andrew.....	613	Main
1916	O'Brien, Francis Joseph.....	297	Main
1917	Petrocelli, Gaetano Gerardo.....	54	Washington
1911	Rinde, Hamilton.....		Connecticut State Hosp.
1919	Van Cor, Chester Arthur.....		Connecticut State Hosp.
1904	Walsh, Thomas Patrick.....	675	Main
1900	Young, Charles Bellamy.....	15	Pleasant
1910	Zink, Charles Edwin.....	232	Main

OLD SAYBROOK.

1905	Grannis, Irwin.
1901	Luther, Calista Vinton.

PORTLAND.

1913	Burnham, John Ladd.
1910	Chedel, Charles Brigham.
1877	Fisher, William Edwin.
1889	Potter, Frank Edward.
1878	Stanley, Charles Everett.

SAYBROOK.

DEEP RIVER.

1892	French, Howard Truman.
1903	Pratt, Arthur Milon.

OUT OF COUNTY.

1909	Brown, Louis Raymond.....	Danvers State Hosp., Hathorne, Mass.
1909	Chillingworth, Felix P.	Tulane Univ., New Orleans, La.
1890	Coleburn, Arthur Burr.....	14 Elm. Norwalk
1919	Gibson, Edward Thomas.....	Rialto Bldg., Kansas City, Mo.

1882	Keniston, James Mortimer...	208 Eastern Promenade, Portland, Me.
1907	Lord, Sidney Archer.....	Nahant Road, Concord, Mass.
1911	McKendree, Charles A.	616 Madison ave., New York City
1918	Sandy, William Charles.....	105 East 22d St., New York City

Total Number 52

NEW HAVEN COUNTY.

President, B. AUSTIN CHENEY, M.D., New Haven.

Vice President, ROBERT E. PECK, M.D., New Haven.

Secretary, HERBERT THOMS, M.D., 59 College Street, New Haven.

Councilor, WILLIAM H. CARMALT, M.D., New Haven.

Censors, EDWARD T. BRADSTREET, M.D., FRANK H. WHEELER, M.D.,
CHARLES H. BROWN, M.D.

Annual Meeting, in April; Semi-Annual, in October. Date set
by the Executive Committee.

ANSONIA.

1916	Aaronson, Michael S.	410 Main
1887	Cooper, Louis Edward.....	256 Wakelee ave.
1916	Mercer, Clarence H.	70 Main
1915	O'Neil, William Henry.....	194 Main
1907	Parmelee, Edward Kibbe.....	50 Main
1916	Peck, Frederick Johnson.....	44 Main
1909	Tolles, Burton Isaac.....	38 Main
1900	Wilmot, Louis Howard.....	38 Main

BRANFORD.

1917	Gaylord, Charles Woodward.
1916	McQueen, Arthur Samuel.
1886	Tenney, Arthur John.

DERBY.

1916	Baldwin, Charles Tomlinson.....	74 Olivia
1917	Kennedy, Paul B.	51 Elizabeth
1885	Loomis, Frank Newton.....	66 Elizabeth
1906	Maguire, Edward O'Reilly.....	24 Elizabeth
1910	Parlato, Michael Antonio.....	270 Elizabeth
1914	Plunkett, Thomas F.	18 Elizabeth

1916	Richardson, Dwight A.	178	Minerva
1899	Sharpe, Elmer Thomas.....	12	Elizabeth
1910	Treat, William Howard	240	Main

EAST HAVEN.

1897	Holbrook, Charles Werden.....	596	Thompson ave.
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GUILFORD.

1916	Smith, Frederic DeWitt.
1888	West, Redfield Benjamin.

HAMDEN.

1904	Lay, Walter Sidders.
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MOUNT CARMEL.

1890	Joslin, George Harvey.
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MADISON.

1908	Rindge, Milo Pember.
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MERIDEN.

1877	Bradstreet, Edward Thomas.....	170	Colony
1900	Cooke, Joseph Anthony.....	50	E. Main
1881	Eggleston, Jeremiah Dewey.....	132	W. Main
1888	Fenn, Ava Hamlin.....	30	Capitol ave.
1889	Griswold, Frederick Pratt.....	481	Broad
1896	LaPointe, John William Henry.....	128	W. Main
1907	Lockwood, Howard DeForest.....	248	E. Main
1917	McElman, Harry Wilbur.....	62½	E. Main
1891	Meeks, Harold Albert.....	89	E. Main
1913	Murdock, Thomas P.	42½	E. Main
1872	Nickerson, Nehemiah.....	16	Washington
1920	Otis, Israel Sabine.....	165	W. Main
1885	Otis, Samuel Dickinson.....	165	W. Main
1888	Pierce, Elbridge Worthington.....		Washington pl.
1916	Quinlan, Raymond V.	42½	E. Main
1913	Smith, David Parker	34	W. Main
1883	Smith, Edward Weir	34	W. Main
1906	Sullivan, Michael Joseph.....	77	W. Main
1913	Wilson, Leslie Adams.....	88	E. Main

MILFORD.

- 1913 Fischer, William John Henry.
 1909 Ives, John Wagner.

DEVON.

- 1914 Pons, Louis Jacques.

NAUGATUCK.

- 1913 Baker, Walter Isaac.
 1891 Bull, Thomas Marcus.
 1901 Carroll, John James.
 1916 Claffey, Michael Francis.
 1894 Johnson, Edwin Hines.
 1906 Reilly, Walter A.
 1892 Robbins, James Watson.
 1901 Tuttle, Frank James.
 1914 Woodford, Chester North.

NEW HAVEN.

- 1902 Allen, Millard Filmore.....65 Dixwell ave.
 1893 Alling, Arthur Nathaniel.....257 Church
 1919 Alpert, Reuben Henry.....47 Sylvan ave.
 1895 Arnold, Ernst Hermann.....1449 Chapel
 1908 Arnold, Harold Sears.....110 Wall
 1893 Bacon, Leonard Woolsey.....113 Whitney ave.
 1916 Baldwin, William Pitt.....1226 Chapel
 1890 Baribault, Arthur Octave.....211 Chapel
 1920 Barker, Creighton.....1173 Chapel
 1900 Barnes, William Samuel.....37 College
 1908 Barrett, William Joseph.....63 Olive
 1896 Bartlett, Charles Joseph.....195 Church
 1905 Bean, William Hill.....40 Pleasant
 1909 Beck, Frederick George.....199 York
 1911 Bercinsky, David.....360 George
 1911 Bergman, Alexander.....49 Howe
 1898 Bishop, Frederic Courtney.....1241 Chapel
 1889 Bishop, Louis Bennett.....356 Orange
 1907 Blake, Eugene Maurice.....55 Trumbull
 1907 Blumer, George.....150 York
 1911 Boardman, Albertus Kellogg.....41 Forbes ave.
 1919 Bonoff, Zelly A.387 George
 1919 Bretzfelder, Karl Benjamin.....375 Orange
 1919 Brown, Kent Oakley.....131 Mansfield

1916	Burke, William Patrick Joseph.....	466	Dixwell ave.
1913	Butler, Wilda Edwin.....	223	York
1904	Butler, William James.....	712	Howard ave.
1916	Carelli, Genesis Frank.....	541	Chapel
1877	Carmalt, William Henry.....	261	St. Ronan
1914	Carroll, Charles Henry.....	236	Grand ave.
1892	Cheney, Benjamin Austin.....	59	College
1913	Churchman, John Woolman.....	59	College
1901	Cohane, Jeremiah Joseph.....	59	College
1904	Cohane, Timothy Francis	518	Howard ave.
1917	Collins, William Francis.....	336	St. John
1914	Comfort, Charles Williams, Jr.	1193	Chapel
1915	Comstock, Fred Walter.....	552	Howard ave.
1914	Conte, Harry Albert.....	158	St. John
1887	Converse, George Frederick.....	1	Whalley ave.
1916	Cooney, William Joseph.....	342	Grand ave.
1897	Crowe, Willis Hanford.....	59	College
1886	DeForest, Louis Shepard.....	335	Orange
1920	Deming, Charles Kenneth.....	66	Elm
1908	Diefendorf, Allen Ross.....	129	Church
1915	Dryfus, Milton Leopold.....	193	York
1882	Eliot, Gustavus.....	209	Church
1914	Esposito, Joseph Vincent.....	96	Greene
1913	Ferguson, Robert John.....	59	College
1892	Ferris, Harry Burr.....	395	St. Ronan
1911	Flint, Joseph Marshall.....	320	Temple
1914	Flynn, Charles Thomas.....	150	Shelton ave.
1917	Flynn, David Aloysius.....	352	Grand ave.
1898	Flynn, James Henry Joseph.....	840	Howard ave.
1920	Foley, Francis Edward.....	588	Ferry
1888	Foote, Charles Jenkins.....	60	Elm
1907	Ford, Alice Porter.....	1400	Chapel
1920	Geraci, Lucian Arthur.....	153	York
1910	Goldberg, Samuel James.....	37	College
1912	Goldman, George.....	1	Howe
1897	Gompertz, Louis Michael.....	1195	Chapel
1919	Grodzinsky, Herman Wolmer.....	840	Howard ave.
1914	Harten, James Aloysius.....	95	Olive
1903	Hartshorn, Willis Ellis.....	67	Trumbull
1881	Hawkes, William Whitney.....	31	High
1916	Hendricks, Albert Ludwig.....	26	Trumbull
1907	Henze, Carl William	466	Orange
1908	Herbert, Archibald Cecil.....	256	McKinley ave.
1912	Hershman, Abram Aron.....	6	High

1908	Hessler, Herman Philip.....	323	George
1916	Hirata, Isao.....	356	Elm
1917	Honeij, James Albert.....		New Haven Hosp.
1915	Hynes, Frederick Henry.....	196	York
1903	Hynes, Thomas Vincent.....	1441	Chapel
1914	Jackowitz, Gabriel.....	347	Orange
1914	James, George Richard.....	686	State
1919	Johnson, Edgar Mayer.....	42	College
1911	Keating, Hugh Francis.....	619	Howard ave.
1901	Kilbourn, Clarence Leishman.....	202	Blatchley ave.
1898	Kirby, Frank Alonzo.....	355	Whalley ave.
1912	Kleiner, Israel.....	193	York
1917	Kleiner, Simon Bretzfelder.....	39	Howe
1907	Lane, John Edward.....	59	College
1913	Lang, William Peter.....	139	Dwight
1915	Lear, Maxwell.....	35	Sylvan ave.
1920	Levy, Daniel Frederick.....	635	George
1915	Levy, Louis Henry	1172	Chapel
1905	Lewis, Dwight Milton.....	36	High
1911	Linde, Joseph Irving.....	163	York
1878	Lindsley, Charles Purdy.....	198	Sherman ave.
1882	Luby, John Francis.....	42	Howe
1905	Ludington, Nelson Amos.....	1252	Chapel
1908	Lyon, Treby Williams.....	193	York
1905	McDermott, Terrance Stephen.....	1334	Chapel
1893	McDonnell, Ralph Augustine.....		Liberty Bldg.
1916	McGuire, Frank J.	26	Elm
1913	McGuire, William Charles.....	106	Park
1899	McIntosh, Edward Francis.....	307	Alden ave.
1900	Maher, James Stephen.....	261	Orange
1889	Maher, Stephen John.....	212	Orange
1878	Mailhouse, Max.....	105	Elm
1899	Mariani, Nicola.....	119	Greene
1892	Marsh, Arthur Washburn.....	1015	Whalley ave.
1920	Maynard, Harry Hilts.....	882	Howard ave.
1916	Mendillo, Anthony Joseph.....	26	Elm
1916	Morriss, William Haviland.....		New Haven Hospital
1916	Morse, Arthur.....	71	College
1910	Murphy, John Aloysius.....	28	Edwards
1897	Nadler, Alfred Goldstein.....	377	Orange
1904	Notkins, Louis Adolph.....	700	Howard ave.
1913	Nugent, William Huggard.....	432	Temple
1913	O'Brien, John F.	196	York
1920	O'Brien, William Henry Joseph.....	59	College

1885	Osborne, Oliver Thomas.....	177	Church
1881	Park, Charles Edwin.....	98	Elm
1894	Peck, Robert Ellsworth.....	59	College
1886	Peckham, Lucy Creemer.....	345	Greene
1909	Phillips, Frank Lyman.....	413	Temple
1890	Pinney, Royal Watson.....		Hotel Duncan
1893	Pitman, Edwin Parker.....	52	Sylvan ave.
1916	Porter, Donald Wallace.....	58	Wall
1894	Porter, Isaac Napoleon.....	198	Dixwell ave.
1913	Prince, Alexander Louis.....	150	York
1903	Rand, Richard Foster.....	246	Church
1903	Reilly, Francis Henry.....	296	Columbus ave.
1891	Reilly, James Michael.....	337	Cedar
1914	Reynolds, Harry St. Clair.....	195	Church
1890	Ring, Henry Wilson.....	185	Church
1897	Robbins, Charles Henry.....	326	Grand ave.
1892	Robinson, Paul Skiff.....	164	Grand ave.
1910	Rogers, James Frederick.....	447	George
1920	Rogers, Orville Forrest, Jr.....	116	High
1914	Russell, Thomas Hubbard.....	57	Trumbull
1920	Russo, Joseph Daniel.....	154	Chapel
1910	Sanford, Charles Edwin.....	59	College
1897	Sanford, Leonard Cutler.....	347	Temple
1896	Sanford, Ward Harding.....	650	Orange
1911	Scarbrough, Marvin McRae.....	105	College
1915	Scholl, Robert Frederick.....	485	Ferry
1920	Seabury, Robert Brewster.....	51	Trumbull
1916	Segnalla, Ernest.....	516	Chapel
1914	Sheahan, Michael J.....	1287	Chapel
1915	Sheahan, William Lawrence.....	73	Sherman ave
1913	Skiff, Stuart Ernest.....	1194	Chapel
1914	Skiff, Walter C.	1184	Chapel
1891	Skinner, Clarence Edward.....	31	Lake pl.
1896	Slattery, Morris Dove.....	566	Howard ave.
1916	Slemons, Josiah Morris.....	284	Orange
1914	Smirnow, Max Ruskin.....	862	Howard ave.
1898	Smith, Henry Hubert.....	101	Elm
1914	Smith, Marvin	325	Humphrey
1896	Sperry, Frederick Noyes.....	59	College
1905	Spier, Seymour Leopold.....	359	Crown
1907	Standish, Frank Billings.....	199	York
1903	Steele, Henry Merriman.....	226	Church
1882	Stetson, James Ebenezer.....		Union League Club
1914	Stetson, Paul Russell.....	646	Dixwell ave.
1916	Stewart, Harry Eaton....	1449	Chapel

1920	Strauss, Maurice Jacob.....	193 York
1911	Sullivan, Jeremiah Barrett.....	274 Dixwell ave.
1897	Sullivan, John Francis.....	205 Blatchley ave.
1886	Swain, Henry Lawrence.....	195 Church
1914	Sweet, Grover Cleveland.....	710 Howard ave.
1900	Teele, Julia Ernestine.....	206 Hamilton
1920	Terhune, William Barclay.....	39 Church
1915	Thoms, Herbert.....	59 College
1911	Tileston, Wilder.....	101 Grove
1909	Townshend, Raynham.....	233 Church
1911	Tracy, Robert Graham.....	493 Howard ave.
1892	Tuttle, Charles Alling.....	196 York
1896	Verdi, William Francis.....	27 Elm
1915	Weed, Arthur Romanzo.....	198 Park
1919	Weil, Arthur.....	1172 Chapel
1902	Welch, Harry Little	59 College
1883	Welch, William Collins.....	59 College
1917	Westervelt, Marvin Zabriskie.....	406 Dixwell ave.
1907	Wheatley, Louis Frederick.....	Grace Hosp.
1884	Wheeler, Frank Henry.....	27 Perkins
1915	White, Herman Robert.....	416 Oak pl.
1916	Whiting, Leonard Clark.....	40 Whalley ave.
1906	Whittemore, Edward Reed.....	328 Temple
1899	Winne, William Nelson.....	1020 Whalley ave.
1881	Wright, Frank Walden.....	48 Pearl
1895	Wurtenburg, William Charles.....	98 Elm
1916	Young, Thomas Herbert.....	185 Church
1920	Yudkin, Arthur Meyer.....	238 York

NORTH HAVEN.

1869	Goodyear, Robert Beardsley.
1904	Higgins, Gould Shelton.

MONTOWESE.

1914	Nichols, Ralph Wilbur.
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ORANGE.

WEST HAVEN.

1905	Bevan, Charles A.	381 Main
1913	Clarke, Ralph DeBallard.	
1909	Gilmore, Joseph Leo.....	366 Main
1904	Kowalewski, Victor Alexander.....	597 Campbell ave.
1898	Phelps, Charles Dickinson....	644 Campbell ave.
1915	Rogers, Platt Harrison.....	246 Elm

SEYMOUR.

1916	Beckwith, Henry W.	107 Main
1892	Benedict, Frank Allen.....	13 Maple
1896	Davis, Elias Wyman.....	142 Washington ave.
1913	Harvey, Edward Regis.....	119 Main

WALLINGFORD.

1908	Buffum, John Harold.....	145 N. Main
1905	Lyman, David Russell.....	Gaylord Farm Sanatorium
1911	McGaughey, James David.....	261 Center
1881	Russell, William Spencer.....	176 N. Main
1919	Sheehan, Mark Thomas.....	102 Center
1916	Smith, Charles Francis.....	34 N. Whittlesey ave.
1919	Sweet, Wallace Nathaniel.....	176 North Main

WATERBURY.

1920	Anderson, Alexander James.....	76 Center
1900	Anderson, Henry Gray.....	76 Center
1916	Anderson, Peyton Fortine.....	64 Bishop
1874	Barber, Walter Lewis	87 N. Main
1910	Barber, Walter Lewis, Jr.	87 N. Main
1908	Bevans, Theodore F.....	111 W. Main
1916	Bonner, Robert Alexander.....	140 N. Main
1910	Brennan, Patrick Joseph.....	565 E. Main
1894	Brown, Charles Henry.....	57 N. Main
1914	Callender, Eugene Frederick.....	164 W. Main
1875	Castle, Frank Edwin.....	77 N. Main
1892	Cooley, Myron Lucius.....	354 N. Main
1907	Cowan, Isabel.....	79 N. Main
1887	Crane, Augustin Averill.....	300 W. Main
1916	DeLuise, Isacco	312 S. Main
1912	Dillon, John Henry.....	337 N. Main
1902	Dwyer, Patrick James.....	51 W. Main
1917	Dye, John Sinclair.....	111 W. Main
1916	Egan, John Joseph.....	131 Baldwin
1905	Engelke, Charles.....	50 Leavenworth
1905	Farrell, John Edward.....	111 W. Main
1880	Frost, Charles Warren Selah.....	54 Central ave.
1907	Gailey, John Joseph.....	111 W. Main
1909	Gancher, Jacob.....	275 N. Main
1914	Good, William Murray.....	26 E. Main
1894	Goodenough, Edward W.	44 Leavenworth
1904	Goodrich, William Albert.....	6 Abbott ave.
1919	Gosselin, George A.....	300 W. Main

1896	Graves, Frederick George.....	161	N. Main
1915	Green, Jacques H.....	291	N. Main
1893	Hamilton, Charles Allen.....	15	Arch
1887	Hayes, John Francis.....	15	S. Elm
1910	Healey, Thomas Francis.....	31	Pleasant
1911	Herr, Edward Albert.....	317	N. Main
1919	Jackson, Andrew Joseph.....	18	Second Ave.
1915	Johnson, Ernest H.	164	W. Main
1898	Kilmartin, Thomas J.		Lilley Bldg.
1914	Kirschbaum, Edward H.	20	Grove
1910	Lawlor, Michael Joseph.....	158	N. Main
1916	Licht, William Henry.....	148	N. Main
1909	McDonald, Arthur Francis.....	188	E. Main
1916	McGrath, John H.	309	E. Main
1906	McLarney, Thomas Joseph.....	27	Cherry
1905	McLinden, James John.....	858	N. Main
1897	Maloney, Daniel Joseph.....	79	N. Main
1899	Monagan, Charles Andrew.....	64	Cooke
1897	Moriarty, James Ligouri.....	46	Leavenworth
1887	Munger, Carl Eugene.....	81	N. Main
1893	O'Connor, Patrick Thomas.....	164	W. Main
1887	O'Hara, Bernard Augustine.....	161	E. Main
1901	Pomeroy, Nelson Asa.....	76	Center
1916	Quinn, Raymond J.....	867	Baldwin
1916	Riordan, Michael Davitt.....	853	Bank
1894	Robbins, George Orrin.....	192	Grand
1883	Rodman, Charles Shepard.....	48	N. Main
1910	Russell, Edmund.....	76	Center
1897	Russell, George Washington.....	236	Bank
1914	Ryder, Raymond Harrison.....	177	Bank
1906	Smith, Egbert Livingston.....	292	W. Main
1919	Smith, George Milton.....	76	Center
1915	Spicer, Edmund	292	W. Main
1906	Swenson, Andrew Clay.....	164	W. Main
1902	Thibault, Louis Joseph.....	35	Willow
1908	Variell, Arthur	133	W. Main
1916	Vastola, Anthony P.	99	N. Main

OUT OF COUNTY.

1916	Gessner, Francis Emil.....	care of Surgeon Gen., U. S. Army
1899	Hammond, Samuel Mowbray.....	36 Pearl st., Hartford
1917	Hoegen, Joseph Alton.....	334 Alexander ave., Bronx, N. Y.
1891	McNeil, Rollin.....	South Salem, N. Y.
1917	Merrill, William Truman.....	Boston State Hosp., Mattapan, Mass.

Total Number 332

NEW LONDON COUNTY.

President, HUGH B. CAMPBELL, M.D., Norwich.

Vice President, C. F. FERRIN, M.D., New London.

Secretary, ALBERT C. FREEMAN, M.D., 89 Union St., Norwich.

Councilor, CHARLES C. GILDERSLEEVE, M.D., Norwich.

Censors, E. P. DOUGLASS, M.D., C. B. GRAVES, M.D., G. H. JENNINGS, M.D.

Annual Meeting, First Thursday in April; Semi-Annual, First Thursday in October.

COLCHESTER.

1913 Howland, Edward Joseph.

EAST LYME.

NIANTIC.

1906 Atkinson, Edward.

1887 Dart, Frederick Howard.

GRISWOLD.

JEWETT CITY.

1876 Jennings, George Herman.

1916 McLaughlin, John Henry.

GROTON.

1916 Barnum, Charles Gardiner.

1918 Douglass, Edmund Latham.

1893 Douglass, Edmund Peaslee.

NOANK.

1904 Hill, William Martin.

LYME.

1909 Devitt, Ellis King.

MONTVILLE.

1915 Donahue, John James.

UNCASVILLE.

1894 Fox, Morton Earl.

NEW LONDON.

1916 Black, John Torrington.....285 Montauk ave.

1916 Black, Ross Elliot.....581 Bank

1916	Cheney, George Philip.....	62 Montauk ave.
1895	Chipman, Edwin Clifford.....	232 Williams
1907	Cronin, William Daniel.....	23 Main
1909	Dunn, Frank Martin.....	149 State
1896	Ferrin, Carlisle Franklin.....	36 Huntington
1906	Ganey, Joseph Matthew.....	8 Main
1887	Graves, Charles Burr.....	4 Mercer
1907	Harrington, James Leon.....	215 Montauk ave.
1902	Henkle, Emmanuel Alexander.....	51 Federal
1895	Heyer, Harold Hankinson.....	70 Coit
1909	Lawson, Stuart Johnston.....	Manwaring Bldg., State
1901	Lee, Harry Moore.....	Gallup lane
1896	Rogers, Thomas Weaver.....	43 Huntington
1878	Stanton, John Gilman.....	99 Huntington
1904	Sullivan, Daniel	58 Huntington
1899	Taylor, John Clifton.....	Harris Bldg.
1909	Winship, Ernest Oliver.....	Manwaring Bldg., State
1920	Woodruff, Thomas A.....	Plant Bldg.
1916	Young, James Frederick.....	78 Washington

NORTH STONINGTON.

1915 Maine. Thurman Park.

NORWICH.

1910	Agnew, Robert Robertson.....	Thayer Bldg.
1915	Blackmar, John Stanton.....	24 Oneco
1908	Brophy, Edward Joseph.....	88 Central
1884	Browne, William Tyler.....	275 Broadway
1916	Callahan, John W.	314 Main
1915	Campbell, Hugh Baird.....	State Tuberculosis Sanatorium
1909	Casey, William Bradford.....	284 Main
1914	Cassidy, Louis Thomas.....	48 Church
1871	Cassidy, Patrick.....	46 Main
1897	Donahue, James Joseph.....	43 Broadway
1915	Donahue, John Daniel	138 Washington
1916	Driscoll, William T.	Alice Bldg., Main
1916	Freeman, Albert Clark.....	89 Union
1919	Gadle, Paul F.....	Thayer Bldg.
1898	Gildersleeve, Charles Childs.....	287 Main
1898	Higgins, Harry Eugene.....	21 Fairmount
1914	LaPierre, Arnaud Julian.....	287 Main
1907	LaPierre, Leone Franklin.....	287 Main
1892	Perkins, Charles Harris.....	Shannon Bldg.
1886	Tingley, Witter Kinney.....	35 Main
1920	Wilcox, Franklin S.....	State Hosp. for the Insane

ACTIVE MEMBERS.

TAFTVILLE.

- 1916 Pratt, Louis Irving.
 1891 Thompson, George.

STONINGTON.

MYSTIC.

- 1907 Allyn, Louis Maxson.
 1894 Gray, William Henry.
 1889 Purdy, Alexander Marshall.
 1914 Smail, Martin Lawson.

WATERFORD.

- 1895 Minor, George Maynard.

OUT OF COUNTY.

- 1904 Fontaine, Alphonse.....Plainfield
 1919 Klein, Joseph Matthew.....New Britain
 1915 Lynch, Edward James.....State Tuberculosis Sanatorium, Shelton
 1912 Williams, Charles Mallory.....66 W. 55th st., New York City
 1913 Wilson, Frank E.980 Windsor ave., Hartford

Total Number 67

TOLLAND COUNTY.

President, CHARLES T. LA MOURE, M.D., Mansfield Depot.

Vice President, JOHN P. HANLEY, M.D., Stafford Springs.

Secretary, JOHN E. FLAHERTY, M.D., Rockville.

Councilor, THOMAS F. ROCKWELL, Rockville.

Censors, JOHN P. HANLEY, M.D., FREDERICK W. WALSH, M.D.,
 THOMAS F. O'LOUGHLIN, M.D.

Annual Meeting, Third Tuesday in April; Semi-Annual, Third
 Tuesday in October.

COVENTRY.

ROCKVILLE.

- 1905 Fiske, Isaac Parsons.....R. F. D. 2

SOUTH COVENTRY.

1891 Higgins, William Lincoln.

MANSFIELD.

MANSFIELD DEPOT.

1918 La Moure, Charles TenEyck.

1918 Smith, Gilbert Tyson.

STAFFORD.

STAFFORD SPRINGS.

1917 Dawson, James William.

1908 Hanley, John Patrick.

1857 Newton, Cyrus Brownlee.

1879 Smith, Frank Lewis.

TOLLAND.

1890 Simmons, Willard Nelson.

VERNON.

ROCKVILLE.

1908 Bean, Wright Butler.

1908 Dickinson, Francis McLean.

1918 Flaherty, John Edward.

1897 O'Loughlin, Thomas Francis.

1883 Rockwell, Thomas Francis.

1885 Walsh, Frederick William.

Total Number 15

WINDHAM COUNTY.

President, JOSEPH N. PERRAULT, M.D., Danielson.

Vice President, FRED M. SMITH, M.D., Willimantic.

Secretary, ROBERT C. PAYNE, M.D., Thompson.

Councilor, S. B. OVERLOCK, M.D., Pomfret.

Censors, J. B. KENT, M.D., T. R. PARKER, M.D., W. H. JUDSON, M.D.

Annual Meeting, Third Thursday in April; Semi-Annual
Meeting, Third Thursday in October.

BROOKLYN.

1919 Tanner, Warren Avery.

HAMPTON.

1914 Marsh, Arthur Drought.

KILLINGLY.

1908 Barnes, George.

DANIELSON.

1905 Burroughs, George McClellan.

1883 Hibbard, Nathaniel.

1879 Judson, William Henry.

1918 Kingsbury, Charles Henry.

1909 Perreault, Joseph Napoleon.

1920 Todd, Frank Paige.

EAST KILLINGLY.

1885 Hill, Charles Edwin.

PLAINFIELD.

1903 Chase, Arthur Alverdo.

CENTRAL VILLAGE.

1898 Gardner, James Lester.

MOOSUP.

1895 Adams, William Waldo.

1884 Allen, Charles Noah.

1909 Downing, Francis.

POMFRET.

1895 Overlock, Seldom Burden.

PUTNAM.

1905 Bullard, Marguerite Jane.

1871 Kent, John Bryden.

1919 Lamarche, George Tancrede.

1897 Morrell, Frederick Augustus.

1919 Murphy, Bernard Patrick.

1906 Perry, Edward Franklin.

THOMPSON.

1903 Paine, Robert Child.

NORTH GROSVENORDALE.

1906 Roch, Emilien.

WINDHAM.

1888 Guild, Frank Eugene.

WILLIMANTIC.

1919 Clark, Herman Little.
 1891 Girard, Charles Hermenigilde.
 1901 Girouard, Joseph Arthur.
 1919 Hendry, William Edward.
 1896 Hills, Laura Heath.
 1913 Jenkins, Charles Albert.
 1908 Keating, William Patrick Stuart.
 1919 Little, Herman Clark.
 1909 Mason, Louis Irving.
 1907 O'Neill, Owen.
 1884 Parker, Theodore Raymond.
 1906 Simonds, Clarence Eugene.
 1914 Smith, Fred Morse.
 1891 White, Robert Creighton.

WOODSTOCK.

EAST WOODSTOCK.

1913 Pike, Ernest Reginald.

OUT OF COUNTY.

1883 Foster, Warren Woden.....Bureau of Pensions, Washington, D. C.

Total Number 40

SUMMARY.

FAIRFIELD COUNTY	206
HARTFORD COUNTY	246
LITCHFIELD COUNTY	69
MIDDLESEX COUNTY	52
NEW HAVEN COUNTY	332
NEW LONDON COUNTY	67
TOLLAND COUNTY	15
WINDHAM COUNTY	40
TOTAL	1027

**OFFICERS OF THE CONNECTICUT STATE MEDICAL
SOCIETY FROM ITS ORGANIZATION IN 1792
TO THE PRESENT TIME.***

PRESIDENTS.

1792	Leverett Hubbard.	1876	Ashbel W. Barrows.
1794	Eneas Munson.	1877	Robert Hubbard.
1801	James Potter.	1878	Charles M. Carleton.
1803	Thomas Mosley.	1879	Alfred R. Goodrich.
1804	Jeremiah West.	1880	Gideon L. Platt.
1807	John R. Watrous.	1881	William Deming.
1812	Mason F. Cogswell.	1882	William G. Brownson.
1822	Thomas Hubbard.	1883	Elisha B. Nye.
1827	Eli Todd.	1884	Benjamin N. Comings.
1829	John S. Peters.	1885	Elijah C. Kinney.
1832	William Buel.	1886	T. Morton Hills.
1834	Thomas Miner.	1887	Francis Bacon.
1837	Silas Fuller.	1888	George L. Porter.
1841	Elijah Middlebrook.	1889	Orlando Brown.
1843	Luther Ticknor.	1890	Melancthon Storrs.
1846	Archibald Welch.	1891	Charles A. Lindsley.
1849	George Sumner.	1892	Cyrus B. Newton.
1851	Rufus Blakeman.	1893	Francis D. Edgerton.
1853	Richard Warner.	1894	Francis N. Braman.
1854	William H. Cogswell.	1895	Seth Hill.
1856	Benjamin H. Catlin.	1896	Rienzi Robinson.
1858	Ashbel Woodward.	1897	Ralph S. Goodwin.
1861	Josiah G. Beckwith.	1898	Henry P. Stearns.
1863	Ebenezer K. Hunt.	1899	Charles S. Rodman.
1865	Nathan B. Ives.	1900	Leonard B. Almy.
1866	Isaac G. Porter.	1901	John H. Grannis.
1867	Charles Woodward.	1902	Gould A. Shelton.
1868	Samuel B. Beresford.	1903	Samuel B. St. John.
1869	Henry Bronson.	1904	William H. Carmalt.
1870	Charles F. Sumner.	1905	{ †Edward H. Welch. Nathaniel E. Wordin.
1871	Gurdon W. Russell.	1906	
1872	Henry W. Buel.	1907	William L. Higgins.
1873	Ira Hutchinson.	1908	Everett J. McKnight.
1874	Lowell Holbrook.	1909	Sheldon B. Overlock.
1875	Pliny A. Jewett.	1909	Samuel D. Gilbert.
		1910	Frank K. Hallock.

* Prepared for the Secretary by Dr. J. B. Lewis, Hartford.

† Resigned.

1911	John G. Stanton.	1915	Max Mailhouse.
1912	E. T. Bradstreet.	1916	Samuel M. Garlick.
1913	D. Chester Brown.	1917	Edward K. Root.
1914	{ ‡ Oliver C. Smith.	1918	Charles J. Bartlett.
	{ Stephen J. Maher.	1919	Charles B. Graves

VICE PRESIDENTS.

1792	Eneas Munson.	1870	Gurdon W. Russell.
1794	Elihu Tudor.	1871	Henry W. Buel.
1796	James Potter.	1872	Ira Hutchinson.
1801	Thomas Mosley.	1873	Lowell Holbrook.
1803	Jeremiah West.	1874	Pliny A. Jewett.
1804	Jared Potter.	1875	Ashbel W. Barrows.
1806	John R. Watrous.	1876	Robert Hubbard.
1807	Mason F. Cogswell.	1877	Charles M. Carleton.
1812	John Barker.	1878	Alfred R. Goodrich.
1813	Timothy Hall.	1879	Gideon L. Platt.
1814	Thomas Hubbard.	1880	William Deming.
1822	Eli Todd.	1881	William G. Brownson.
1824	Eli Ives.	1882	Elisha B. Nye.
1827	John S. Peters.	1883	Benjamin N. Comings.
1829	William Buel.	1884	Elijah C. Kinney.
1832	Thomas Miner.	1885	Samuel Hutchins.
1834	Silas Fuller.	1886	Francis Bacon.
1837	Elijah Middlebrook.	1887	George L. Porter.
1841	Luther Ticknor.	1888	Orlando Brown.
1843	Archibald Welch.	1889	Charles J. Fox.
1846	Dyer T. Brainard.	1890	Charles A. Lindsley.
1847	George Sumner.	1891	Cyrus B. Newton.
1849	Rufus Blakeman.	1892	Francis D. Edgerton.
1851	Richard Warner.	1893	Francis N. Braman.
1853	William H. Cogswell.	1894	Seth Hill.
1854	Benjamin H. Catlin.	1895	Rienzi Robinson.
1856	Ashbel Woodward.	1896	Ralph S. Goodwin.
1858	Josiah G. Beckwith.	1897	Henry P. Stearns.
1861	Ebenezer K. Hunt.	1898	Charles S. Rodman.
1863	Nathan B. Ives.	1899	Leonard B. Almy.
1865	Isaac G. Porter.	1900	John H. Grannis.
1866	Charles Woodward.	1901	Gould A. Shelton.
1867	Samuel B. Beresford.	1902	Samuel B. St. John.
1868	Henry Bronson.	1903	William H. Carmalt.
1869	Charles F. Sumner.	1904	Edward H. Welch.

‡ Deceased in office.

1905 {	Frederick A. Morrell.	1913 {	William S. Hulbert.
	Eli P. Flint.		Kate C. Mead.
1906 {	Charles E. Brayton.	1914 {	Stephen J. Maher.
	Franklin P. Clark.		John B. Kent.
1907 {	Miner C. Hazen.	1915 {	Charles B. Graves.
	Irving L. Hamant.		Cushman A. Sears.
1908 {	Samuel D. Gilbert.	1916 {	George M. Burroughs.
	Walter L. Barber.		John C. Kendall.
1909 {	Theodore R. Parker.	1917 {	Patrick Cassidy.
	William J. Tracey.		Charles C. Godfrey.
1910 {	Edmund P. Douglass.	1918 {	Frank E. Guild.
	Edward T. Bradstreet.		James H. Kingman.
1911 {	D. Chester Brown.	1919 {	George H. Noxon
	Ralph C. Paine.		Frank H. Wheeler
1912 {	Frederick Gilnack.		
	Alvin E. Barber.		

SECRETARIES.

1792	Jared Potter.	1843	Ralph Farnsworth.
1794	James Clark.	1844	Worthington Hooker.
1796	Daniel Sheldon.	1846	Gurdon W. Russell.
1798	Nathaniel Perry.	1849	Josiah G. Beckwith.
1800	Samuel Woodward.	1858	Panet M. Hastings.
1801	William Shelton.	1862	Leonard J. Sanford.
1805	John Barker.	1864	Moses C. White.
1810	Eli Ives.	1876	Charles W. Chamberlain.
1813	Joseph Foot.	1883	Samuel B. St. John.
1817	Jonathan Knight.	1889	Nathaniel E. Wordin.
1827	Samuel B. Woodward.	1905	Walter R. Steiner.
1830	George Sumner.	1912	Wilder Tileston.
1832	Charles Hooker.	1913	Marvin McR. Scarbrough.
1838	Archibald Welch.	1917	John E. Lane.

TREASURERS.

1792	John Osborn.	1834	Elijah Middlebrook.
1793	Jeremiah West.	1837	Luther Tichnor.
1794	John Osborn.	1841	Virgil Maro Dow.
1796	Mason F. Cogswell.	1851	George O. Sumner.
1800	William B. Hall.	1863	James C. Jackson.
1808	Timothy Hall.	1876	Francis D. Edgerton.
1813	Richard Ely.	1883	Erastus P. Swasey.
1816	Thomas Miner.	1889	William W. Knight.
1817	John S. Peters.	1905	Joseph H. Townsend.
1827	William Buel.	1916	Phineas H. Ingalls.
1829	Joseph Palmer.		

HONORARY MEMBERS OF THE CONNECTICUT STATE MEDICAL SOCIETY FROM ITS ORGANIZATION IN 1792 TO THE PRESENT TIME.*

1797	Felix Pascalis Ouyiere.....	Philadelphia, Pa.
1826	James Jackson.....	Boston, Mass.
	John C. Warren.....	Boston, Mass.
	Samuel L. Mitchell.....	New York
	David Hosack	New York
	Wright Post.....	New York
	Benjamin Silliman.....	New Haven, Conn.
	George M'Clellan	Philadelphia, Pa.
	John Mackie	Philadelphia, Pa.
	Charles Eldridge.....	East Greenwich, R. I.
	Theodore R. Beck.....	Albany, N. Y.
	James Thatcher.....	Plymouth, Mass.
1827	Joseph White.....	Cherry Valley, N. Y.
	William P. Dewees.....	Philadelphia, Pa.
	Edward Delafield.....	New York
	John Delamater.....	Albany, N. Y.
	Walter Channing	Boston, Mass.
	Jacob Bigelow	Boston, Mass.
1828	Phillip Syng Physick.....	Philadelphia, Pa.
	Lewis Heermann.....	U. S. Navy
	Daniel Drake.....	Cincinnati, Ohio
	Henry Mitchell.....	Norwich, N. Y.
	Nathan R. Smith.....	Baltimore, Md.
1829	Valentine Mott.....	New York
	Samuel White.....	Hudson, N. Y.
	Reuben D. Mussey.....	Hanover, N. H.
	William Tully.....	New Haven, Conn.
1830	Richmond Brownell.....	Providence, R. I.
1833	William Beaumont.....	U. S. Army
1834	Samuel Henry Dickson.....	Charleston, S. C.
1835	Samuel Bayard Woodward.....	Worcester, Mass.
1837	John Stearns.....	New York
1839	Henry Green.....	Albany, N. Y.
	Stephen W. Williams.....	Deerfield, Mass.
1840	George Frost	Springfield, Mass.
1841	William Parker.....	New York
1842	Benjah Ticknor.....	U. S. Navy
1844	Alden March.....	Albany, N. Y.

* Prepared for the Secretary in 1918 by Dr. Walter R. Steiner, Hartford.

1847	Amos Twitchell.....	Keene, N. H.
	Charles A. Lee.....	New York
	David S. C. H. Smith.....	Sutton, Mass.
1850	James M. Smith.....	Springfield, Mass.
1851	Henry D. Bulkley.....	New York
1852	J. Marion Sims.....	Montgomery, Ala.
	John Watson.....	New York
1854	Frank H. Hamilton.....	Buffalo, N. Y.
	Robert Watts.....	New York
1855	Mason F. Cogswell.....	Albany, N. Y.
	Oliver Wendell Holmes.....	Boston, Mass.
	Joseph Sargent	Worcester, Mass.
	J. V. C. Smith.....	Boston, Mass.
1856	Foster Hooper.....	Fall River, Mass.
1857	Thomas C. Brinsmade.....	Troy, N. Y.
	George Chandler	Worcester, Mass.
	Gilman Kimball	Lowell, Mass.
1858	James McNaughton.....	Albany, N. Y.
	Usher Parsons.....	Providence, R. I.
1859	S. D. Willard.....	Albany, N. Y.
	John Ware.....	New York
1861	Ebenezer Alden.....	Randolph, Mass.
	B. Fordyce Barker.....	New York
1862	J. G. Adams.....	New York
	Jared Linsley	New York
1863	A. J. Fuller.....	Bath, Maine
1864	Samuel H. Pennington.....	Newark, N. J.
	Frederick N. Bennett.....	Orange, N. J.
	Thomas W. Blatchford.....	Troy, N. Y.
	Thomas C. Finnell	New York
	N. C. Husted.....	New York
	Jacob P. Whittemore.....	Chester, N. H.
1865	John Green.....	Worcester, Mass.
	Thomas Sanborn.....	Newport, N. H.
	William Pierson	Orange, N. J.
	Arthur Ward	Belleville, N. J.
	Hiram Corliss.....	Washington, N. Y.
1866	E. K. Webster.....	Boscawen, N. H.
	P. A. Stackpole.....	Dover, N. H.
1868	Samuel L. F. Simpson.....	Concord, N. H.
	A. T. Woodward.....	Brandon, Vt.
1869	Benjamin Cotting.....	Boston, Mass.
	J. C. Hutchinson.....	Brooklyn, N. Y.
	William McCollom.....	Brooklyn, N. Y.

1870	Henry L. Bowditch.....	Boston, Mass.
	Seth Shove	New York
	Samuel T. Hubbard.....	New York
1873	Gurdon Buck	New York
	George F. Horton.....	Terrytown, Pa.
1880	A. N. Bell.....	Garden City, L. I.
	E. Seguin.....	New York
1882	Pliny Earle.....	Northampton, Mass.
1883	J. S. Billings.....	U. S. Army
1884	James E. Reeves.....	Wheeling, W. Va.
	T. A. Emmett.....	New York
1888	John Dalton	New York
1889	Edward Moore.....	Rochester, N. Y.
1890	W. H. Welch.....	Baltimore, Md.
1891	Robert F. Weir.....	New York
1892	Sir Joseph Lister.....	London
	E. G. Janeway.....	New York
	E. R. Squibb.....	Brooklyn, N. Y.
1894	E. L. B. Stickney.....	Springfield, Mass.
	David Webster.....	New York
	A. J. C. Skene.....	Brooklyn, N. Y.
	Charles E. Gross.....	Hartford, Conn.
1895	Sir James Grant.....	Ottawa
	Henry O. Marcy.....	Boston, Mass.
1896	W. W. Keen	Philadelphia, Pa.
	T. G. Thomas.....	New York
	T. M. Prudden.....	New York
1898	William T. Lusk.....	New York
	James W. McLane.....	New York
	Landon Carter Gray.....	New York
1899	F. H. Wiggin.....	New York
1900	Seneca D. Powell.....	New York
	J. W. S. Gouley.....	New York
1903	Reynold Webb Wilcox.....	New York
1904	William Osler.....	Baltimore, Md.
1905	George M. Sternberg.....	Washington, D. C.
	Francis Delafield	New York
1906	William T. Bull.....	New York
	Maurice H. Richardson.....	Boston, Mass.
1915	William C. Gorgas.....	Washington, D. C.
1917	Richard P. Strong.....	Boston, Mass.
	Herman M. Biggs.....	Albany, N. Y.
1918	Harvey Cushing	Boston, Mass.

ALPHABETICAL LIST

OF THE

MEMBERS OF THE CONNECTICUT STATE MEDICAL SOCIETY,

With Date and Place of Graduation.

Aaronson, M. S.	Univ. N. Y., '13.....	Ansonia
Abrams, A. E.	Albany, '81.....	Hartford
Adam, J. G.	Trinity, Tor., '00.....	Canaan
Adams, F. J.	Univ. N. Y., '95.....	Bridgeport
Adams, H. E.	Yale, '02.....	Hartford
Adams, W. W.	Bellevue, '91.....	Moosup
Agnew, R. R.	Yale, '08	Norwich
Alcorn, T. G.	P. & S., Boston, '97.....	Thompsonville
Alcott, R. W. E.	U. S. Med. Coll., '81.....	West Hartford
Allen, E. B., B.A., M.A., Brown '11.....	Harvard, '15.....	South Manchester
Allen, C. N.	Univ. Vt., '81.....	Moosup
Allen, H. O.	Univ. N. Y., '79.....	Broad Brook
Allen, H. S.	Yale, '04.....	Woodbury
Allen, H. W.	Med. Chir., Phila., '09.....	Ridgefield
Allen, L. M.	P. & S., N. Y., '80.....	South Norwalk
Allen, M. F.	Med. Ch., Phila., '95.....	New Haven
Alling, A. N., B.A., Yale, '86	P. & S., N. Y., '91.....	New Haven
Allyn, L. M.	Univ. Penn., '93.....	Mystic
Alpert, R. H.	Yale, '13.....	New Haven
Alton, C. De L.	Bellevue, '75.....	Hartford
Anderson, A. J., M.B., C.M., Edinburgh, '91	Edinburgh, '18.....	Waterbury
Anderson, H. G.	P. & S., N. Y., '89.....	Waterbury
Anderson, P. F.	N. Y. Homeo. Med. Col., '13....	Waterbury
Arnold, E. H.	Yale, '94.....	New Haven
Arnold, H. S., B.A., Yale, '00	Yale, '03.....	New Haven
Atkinson, E.	Univ. Vt., '93.....	Niantic
Austin, A. E., B.A., Amherst; M.A., Amherst, '04	Jefferson, '05.....	Sound Beach
Avery, J. W.	Univ. Vt., '97.....	Stamford
Axtelle, J. F.	L. I. Hosp. Coll., '78.....	Hartford
Backus, H. S.	L. I. Hosp. Coll., '03.....	Broad Brook
Bacon, L. W., B.A., Yale, '88	Yale, '92.....	New Haven
Bailey, J. E.	P. & S., N. Y., '85.....	Middletown
Bailey, M. A.	P. & S., Balt., '93.....	Hartford
Bailey, N. H.	P. & S., Balt., '11.....	Hartford

Baker, W. I.	Hahnemann, Phila., '98.....	Naugatuck
Baldwin, C. T.	Bellevue Med. Coll., '83.....	Derby
Baldwin, W. P., B.A., Yale, '88	Yale, '90, N. Y. Homeo., '91.....	New Haven
Banks, D. T.	Fordham, '12.....	Bridgeport
Barher, A. E.	Berkshire, '54.....	Bethel
Barher, W. L.	Bellevue, '73.....	Waterbury
Barher, W. L., Jr., B.A., Yale, '03	N. Y. Univ. & Bellevue, '07.....	Waterbury
Baribault, A. O.	Vict. Med. Coll., '89.....	New Haven
Barker, A. J.	Bellevue, '97.....	Torrington
Barker, C.	Dartmouth, '13.....	New Haven
Barnes, F. H.	N. Y. Homeo. Med., '96.....	Stamford
Barnes, G.	Univ. N. Y., '04.....	Killingly
Barnes, W. S., Ph.B., Yale, '95	Yale, '97.....	New Haven
Barnum, C. G., B.A., Middlebury Coll., '05; M.A., Middlebury Coll., '07	Yale, '11.....	Groton
Barrett, W. J.	Md. Med., '04.....	New Haven
Barrows, B. S., Ph.B., '83	Univ. N. Y., '87.....	Hartford
Bartlett, C. J., B.A., Yale, '92; M.A., Yale, '94	Yale, '95.....	New Haven
Bassett, C. W.	Univ. N. Y., '82.....	Sharon
Beach, C. C., Ph.B., Yale, '77	P. & S., N. Y., '82.....	Hartford
Beach, C. T.	Yale, '05.....	Hartford
Bean, W. B.	P. & S., N. Y., '95.....	Rockville
Bean, W. H., Ph.B., Yale, '88	Yale, '03.....	New Haven
Beaudry, J. H.	McGill, '13.....	Bridgeport
Beck, F. G.	Yale, '02.....	New Haven
Beckwith, H. W.	Dartmouth Med. Coll., '02.....	Seymour
Bell, G. N.	Yale, '92.....	Hartford
Benedict, F. A.	P. & S., N. Y., '87.....	Seymour
Bercinsky, D.	Yale, '02.....	New Haven
Bergman, A., B.S., Stockholm, '89	City of N. Y., '95.....	New Haven
Bernstein, A.	Yale, '08.....	Bridgeport
Bevan, C. A.	Med. Chir., Phila., '87.....	West Haven
Bevans, T. F.	Univ. Minn., '03.....	Waterbury
Bickford, H.	Penn. Eclectic Med., '68.....	Hartford
Bill, P. W., Ph.B., Yale, '97	P. & S., N. Y., '01.....	Bridgeport
Biram, J. H.	Cornell, '10.....	Hartford
Birdsong, J. L., B.S., Nashville, '99	Johns Hopkins, '09.....	Hartford
Bishop, F. C., B.A., Yale, '92	Yale, '95.....	New Haven
Bishop, L. B., B.A., Yale, '86	Yale, '88.....	New Haven
Bissell, W. B., B.A., Yale, '88	P. & S., N. Y., '92.....	Lakeville
Black, J. E., Ph.B., Yale, '03	Yale, '08.....	Shelton
Black, J. T.	Hahn. Med. Coll., '94.....	New London
Black, R. E.	P. & S., N. Y., '05.....	New London
Blackmar, J. S.	P. & S., N. Y., '98.....	Norwich
Blair, E. H.	P. & S., Balt., '06.....	Hartford
Blake, E. M.	Yale, '06.....	New Haven
Blank, E. F.	Starling, '97.....	Bridgeport
Blodget, H., B.A., Yale, '75	Bellevue, '81.....	Bridgeport
Blumer, G., M.A., Yale, '07	Cooper Med. Coll., '91.....	New Haven
Boardman, A. K.	Univ. Penn., '99.....	New Haven
Bodley, G. H.	Yale, '07.....	New Britain
Bohannon, C. G.	Univ. N. Y., '78.....	South Norwalk
Bonner, R. A.	Univ. Md., '12.....	Waterbury
Bonoff, Z. A.	Yale, '04.....	New Haven

Borden, C. H.	P. & S., N. Y., '96.....	Hartford
Bostwick, B. E.	L. I. Hosp. Coll., '90.....	New Milford
Botsford, C. P.	Yale, '94.....	Hartford
Boucher, J. B.	P. & S., Balt., '94.....	Hartford
Boucher, T. J.	P. & S., Balt., '04.....	Hartford
Bowers, W. C.	P. & S., N. Y., '77.....	Bridgeport
Boyce, R. V.	Univ. Vt., '13.....	Hartford
Boyle, R. J.	Yale, '08.....	Hartford
Brackett, A. S., B.A., Yale, '92	Jefferson, '95.....	Bristol
Bradeen, F. B.	Univ. Penn., '99.....	Essex
Bradley, M. S.	P. & S., N. Y., '92.....	Hartford
Bradley, T. R.	Univ. Md., '14.....	South Norwalk
Bradstreet, E. T., B.A., Yale, '74	P. & S., N. Y., '77.....	Meriden
Brainard, C. B., Ph.B., Yale, '94	Yale, '98.....	Hartford
Branon, A. W.	Jefferson, '13.....	Hartford
Bray, H. T.	Univ. Vt., '02.....	New Britain
Brayton, H. W., Ph.B., Brown, '06	Harvard, '11.....	Hartford
Brennan, J. E.	Georgetown, '05.....	New Milford
Brennan, P. J.	Yale, '07.....	Waterbury
Bressler, J. L.	Bellevue, '11.....	Hartford
Bretzfelder, K. B.	Jefferson, '16.....	New Haven
Bridge, J. L., B.S., Wesleyan, '88; Ph.D., Clark, '94	Harvard, '03.....	Thompsonville
Brodsky, E. S.	Univ. Zurich, Switzerland, '08....	Westport
Bronson, W. T.	Univ. N. Y., '98.....	Danbury
Brooks, F. T., B.A., Yale, '90	L. I. Hosp. Coll., '93.....	Greenwich
Brooks, M. J.	Yale, '67.....	New Canaan
Bropby, E. J.	Yale, '04.....	Norwich
Brown, C. H.	Univ. N. Y., '93.....	Waterbury
Brown, D. C.	Yale, '84.....	Danbury
Brown, H. M.	Jefferson, '13.....	Suffield
Brown, K. O.	Univ. Kansas, '02.....	New Haven
Brown, L. R., B.A., Tufts, '00	Tufts, '07.....	Hathorne, Mass.
Browne, W. T., Ph.B., Yale, '78	Harvard, '82.....	Norwich
Brownlee, H. F.	P. & S., N. Y., '88.....	Danbury
Bryon, B. A.	Bellevue, '90.....	Ridgefield
Buel, J. L.	P. & S., N. Y., '88.....	Litchfield
Buffum, J. H., Ph.B., Univ. Vt., '96	Univ. Vt., '98.....	Wallingford
Bulkley, L. D., B.A., Yale, '66; M.A.	P. & S., N. Y., '69.....	New York City
Bull, J. N.	P. & S., N. Y., '78.....	Plainville
Bull, T. M.	P. & S., N. Y., '87.....	Naugatuck
Bullard, M. J., B.A., Cornell, '02	Cornell, '04.....	Putnam
Bunce, P. D., B.A., Yale, '88	P. & S., N. Y., '91.....	Hartford
Burke, W.	L. I. Hosp. Coll., '96.....	Greenwich
Burke, W. P. J.	Yale, '90.....	New Haven
Burlingame, C. C.	Hahn., Chic., '08.....	South Manchester
Burnell, F. E.	L. I. Hosp. Coll., '94.....	South Norwalk
Burnham, J. L., B.A., Yale, '96	Yale, '99.....	Portland
Burr, N. A.	Yale, '01.....	South Manchester
Burroughs, G. McC.	Balt. Med. Coll., '00.....	Danielson
Bush, C. E.	Yale, '94.....	Cromwell
Butler, W. E.	Hahnemann, Phila., '97.....	New Haven
Butler, W. J.	L. I. Hosp. Coll., '95.....	New Haven
Caldwell, W. E.	Balt. Med. Coll., '95.....	West Suffield
Calef, J. F., B.A., Wesleyan, '77	Yale, '80.....	Middletown

Callahan, J. W.	P. & S., Balt., '11.....	Norwich
Callender, E. F.	Yale, '12.....	Waterbury
Calvin, C. V.	Harvard, '16.....	Bridgeport
Camp, C. W.	Univ. N. Y., '74.....	Canaan
Campbell, A. J.	P. & S., Balt., '85.....	Middletown
Campbell, H. B.	Univ. Penn., '09.....	Norwich
Campbell, S. S. S.	Univ. Vt., '02.....	Middletown
Cantarow, D.	Tufts, '11.....	Hartford
Carelli, G. F.	Yale, '11.....	New Haven
Carlin, C. H.	Univ. Mich., '96.....	Torrington
Carmalt, W. H., M.A. (Hon.), Yale, '81 ...	P. & S., N. Y., '61.....	New Haven
Carroll, C. H.	Yale, '12.....	New Haven
Carroll, F. P., B.S., Trinity, '10	Johns Hopkins, '14.....	Bridgeport
Carroll, I. F.	Balt. Med., '06.....	Stamford
Carroll, J. J.	Dartmouth, '97.....	Naugatuck
Carter, E. B., Ph.B., Yale, '07	Johns Hopkins, '11.....	Hartford
Carver, J. P.	Alhany, '96.....	Simshury
Casey, W. B.	Univ. Med., '06.....	Norwich
Cassidy, L. T., Georgetown, '04	Georgetown, '08.....	Norwich
Cassidy, P.	Univ. Vt., '65.....	Norwich
Castle, F. E.	Yale, '70.....	Waterbury
Casfee, J. S., Ph.B., Yale, '94	Univ. Penn., '97.....	Sharon
Chapin, H. B.	Georgetown, '08.....	Torrington
Chase, A. A.	Harvard, '01.....	Plainfield
Chedel, C. B., B.A., Dartmouth, '03	Dartmouth, '06.....	Portland
Cheney, B. A., B.A., Yale, '88	Yale, '90.....	New Haven
Cheney, G. P.	Md. Med. School, '13.....	New London
Chester, T. W., B.A., Rutgers, '92; M.A., '95	P. & S., N. Y., '95.....	Hartford
Chillingworth, F. P.	Yale, '07.....	New Orleans, La.
Chipman, E. C., A.B., Alfred Univ., '87 ..	P. & S., N. Y., '01.....	New London
Churchman, J. W., B.A., Princeton, '98; M.A., Princeton, '01; M.A. (Hon.), Yale, '15	Johns Hopkins, '02.....	New Haven
Claffey, M. F.	Univ. Vt., '14.....	Naugatuck
Clark, H. L.	Yale '10.....	Willimantic
Clark, R. M.	Univ. Penn., '91.....	New Britain
Clarke, H. M.	Univ. Toronto, '09.....	Bridgeport
Clarke, J. A.	Bellevue, '97.....	Greenwich
Clarke, R. DeB., B.A., Univ. N. Y., '04 ..	Johns Hopkins, '08.....	West Haven
Clifton, H. C.	Univ. Penn., '01.....	Hartford
Cloonan, J. J.	P. & S., Balt., '07.....	Stamford
Cohh, A. E.	Yale, '98	Falls Village
Cohurn, J. M.	Boston Univ., '74.....	Norwalk
Cochran, L. B.	Univ. Penn., '93.....	Hartford
Cogswell, E. S.	Harvard, '12.....	Hartford
Cogswell, W. B.	Bellevue, '81.....	Stratford
Cohane, J. J.	Yale, '98.....	New Haven
Cohane, T. F.	Yale, '97.....	New Haven
Cohen, J., B.A., Coll. City of N. Y., '94 ..	N. Y. Med. Coll., '09.....	Bridgeport
Coleburn, A. B.	P. & S., N. Y., '90.....	Norwalk
Collins, W. F.	Yale, '04.....	New Haven
Comfort, C. W., Jr., B.A., Yale, '07	Yale, '11.....	New Haven
Comstock, F. W.	Tufts Med., '13.....	New Haven
Conklin, J. H.	Univ. Vt., '99.....	Hartford
Conte, H. A.	L. I. Hosp. Coll., '12.....	New Haven

Converse, G. F.	Yale, '87.....	New Haven
Coogan, J. A.	Bellevue, '76.....	Windsor Locks
Cook, A. G.	P. & S., N. Y., '87.....	Hartford
Cooke, J. A.	Yale, '97.....	Meriden
Cooley, C. M.	Yale, '08.....	New Britain
Cooley, M. L.	Buffalo Univ., '86.....	Waterbury
Cooney, W. J.	Yale, '02.....	New Haven
Cooper, L. E., Ph.B., Yale, '84	Yale, '86.....	Ansonia
Coops, F. H., B.A., Dalhousie, '88	P. & S., Balt., '96.....	Bridgeport
Costanzo, J. J.	Univ. Ill.....	Stamford
Costello, H. N., B.A., Yale, '06	Johns Hopkins, '10.....	Hartford
Cowan, I.	Wom. Med. Coll., N. Y., '92....	Waterbury
Cowen, M. E.	Univ. Vt., '07.....	Green's Farms
Cowell, G. B.	P. & S., N. Y., '88.....	Bridgeport
Cox, R. B.	McGill, '02.....	Collinsville
Coyle, A. E.	Women's Med., '12.....	Windsor Locks
Coyle, W. J.	Buffalo Univ., '85.....	Windsor Locks
Craig, C. F.	Yale, '94.....	Danbury
Cram, G. E., Ph.B., Yale, '97	P. & S., N. Y., '01.....	Norwalk
Crane, A. A., B.A., Yale, '85	Yale, '87.....	Waterbury
Crane, R. W.	Yale, '05.....	Stamford
Cronin, W. D.	P. & S., N. Y., '00.....	New London
Crossfield, F. S.	Bellevue, '78.....	Hartford
Crowe, W. H.	P. & S., N. Y., '95.....	New Haven
Crowley, W. H.	Buffalo, '08.....	Hartford
Cudworth, C. D.	Hahnemann, Chic., '04.....	Winsted
Curley, W. H.	Cornell, '08.....	Bridgeport
Curran, P. J.	P. & S., N. Y., '01.....	Bridgeport
Curtis, R. A.	Univ. N. Y., '93.....	Stratford
Daley, W. P.	Georgetown, '17.....	Hartford
Daly, C. W.	P. & S., Balt., '10.....	Hartford
Dart, F. H.	P. & S., N. Y., '84.....	Niantic
Davis, C. C.	Yale, '07.....	Essex
Davis, E. W., B.A., Yale, '80	Yale, '92.....	Seymour
Davis, G. A.	Jefferson, '03.....	Address unknown
Dawson, J. W.	Toledo, '94.....	Stafford Springs
Day, F. L., B.A., Bates, '90	Bellevue, '93.....	Bridgeport
Deane, H. A.	Dartmouth, '68.....	Broad Brook
DeBonis, D. A., B.A., Victor Immanuel College, Naples, '84	Univ. Naples, '90.....	Hartford
DeForest, L. S., B.A., Yale, '79; M.A., Yale, '91	Univ. Jena, '85.....	New Haven
DeLuca, H. R.	George Washington, '16.....	Bridgeport
DeLuise, I.	Naples Univ., '03.....	Waterbury
Deming, C. D., B.A., Yale, '07	Johns Hopkins, '10.....	Hartford
Deming, C. K.	P. & S., N. Y., '17.....	New Haven
Deming, E. A., Ph.B., Yale, '04	Johns Hopkins, '08.....	Hartford
Deming, N. L.	P. & S., N. Y., '93.....	Litchfield
Deming, W. C.	P. & S., N. Y., '84.....	Georgetown
Denne, T. H.	Univ. Vt., '05.....	West Hartford
Dennis, F. S., B.A., Yale, '72	Bellevue, '74.....	Norfolk
Devitt, E. K.	Univ. Med. Coll., '07.....	Lyme
DeWolfe, D. C.	Univ. Vt., '86.....	Bridgeport
Dichter, C. L.	Md. Med. Coll., '05.....	Stamford

- Dickerman, W. E., B.A., Amherst, '90 Yale, '93..... Hartford
 Dickinson, F. McL., Ph.B., Yale, '00 P. & S., N. Y., '05..... Rockville
 Diefendorf, A. R., B.A., Yale, '94 Yale, '96..... New Haven
 Dillon, J. H. Yale, '04..... Waterbury
 Donabue, James J. P. & S., Balt., '96..... Norwich
 Donahue, J. D. Balt. Med., '09..... Norwich
 Donabue, John J. Balt. Med., '09..... Montville
 Donaldson, W. H. Univ. N. Y., '81..... Fairfield
 Douglass, E. P. Univ. N. Y., '89..... Groton
 Douglass, E. L. L. I. Coll. Hosp., '16..... Groton
 Dowd, M. J. Balt. Med. Coll., '01..... Thompsonville
 Dowling, J. F. L. I. Hosp. Coll., '90..... Hartford
 Downing, F. Balt. Med. Coll., '08..... Moosup
 Driscoll, W. T. P. & S., Balt., '12..... Norwich
 Dryfus, M. L. Yale, '12..... New Haven
 Duesing, H. Univ. Wurtzburg, '92..... Bridgeport
 Dunham, M. Van B. Harvard, '67..... Greenfield Hill
 Dunn, F. M. Balt. Med. Coll., '08..... New London
 Dunn, G. W. Balt. Med. Coll., '09..... New Britain
 Dupee, E. W. Univ. Md., '00..... Bridgeport
 Dwyer, P. J., B.A., Fordham, '04 Univ. N. Y., '97..... Waterbury
 Dwyer, R. J. Jefferson, '08..... Hartford
 Dwyer, W., B.S., Trinity, '09 Johns Hopkins, '13..... Hartford
 Dye, J. S., B.A., Vanderbilt, '00 P. & S., N. Y., '15..... Waterbury

 Eddy, G. W. Univ. Vt., '04..... Collinsville
 Egan, J. J. Univ. Md., '12..... Waterbury
 Eggleston, J. D. P. & S., N. Y., '79..... Meriden
 Eliot, G., B.A., Yale, '77; Yale, M.A., '82.. P. & S., N. Y., '80..... New Haven
 Elliott, C. H. B.Sc. Buckland, '02, M.Sc. Buckland, '04, Med. Cbi., '05.. Hartford
 Ellis, T. L., B.A., Yale, '94 Yale, '96..... Bridgeport
 Elmer, E. O. P. & S., Balt., '94..... Hartford
 Emmett, F. A. Yale, '02..... Hartford
 Enders, T. B., B.A., Yale, '88 P. & S., N. Y., '91..... Hartford
 Engelke, C. P. & S., N. Y., '02..... Waterbury
 English, C. F., B.S., St. Louis, '12 St. Louis, '12..... New Hartford
 English, R. M. Yale, '98..... Danbury
 Esposito, J. V. Jefferson, '12..... New Haven

 Farrell, J. E. Univ. N. Y., '03..... Waterbury
 Fauver, E. P. & S., Columbia, '09..... Middletown
 Fay, W. J., B.A., '10..... Harvard, '14..... Hartford
 Felty, J. W., M.A., Emporia, Kan., '97 .. Jefferson, '84..... Hartford
 Fenn, A. H. P. & S., Balt., '86..... Meriden
 Ferguson, R. J. Hahn, Phila., '89..... New Haven
 Ferrin, C. F., B.A., Univ. Vt., '91 P. & S., N. Y., '95..... New London
 Ferris, H. B., B.A., Yale, '87 Yale, '90..... New Haven
 Field, A. L. I. Hosp. Coll., '67..... East Hampton
 Finch, G. T., B.A., Hobart, '75;
 M.A., Hobart, '78 Bellevue, '77..... Thompsonville
 Finch, S. E. Cornell, '04..... Sound Beach
 Finklestone, B. B. P. & S., Balt., '10..... Bridgeport
 Finn, E. J. Yale, '10..... Shelton
 Finnegan, J. H. Md. Med. Coll., '12..... Bridgeport
 Fischer, A. N. Y. Univ. & Bell. Hosp., '09.... Hartford

Fischer, W. J. H.	Yale, '11.....	Milford
Fisher, J. W.	Wom. Med. Coll., Pa., '93....	Middletown
Fisher, W. E.	Univ. Penn., '76.....	Portland
Fiske, I. P.	Univ. N. Y., '75.....	Rockville
Fitch, F. T.	Yale, '04.....	East Hampton
Fitzgerald, E.	P. & S., Balt., '84.....	Bridgeport
Fitzgerald, W. H.	Univ. Vt., '95.....	Hartford
Flaherty, C. V.	Yale, '10.....	Hartford
Flaherty, J. E.	Georgetown, '08.....	Rockville
Fleck, H. W.	Jefferson, '96.....	Bridgeport
Flint, J. M., B.S., Univ. of Chicago, '95; Princeton, '00; M.A., Yale, '07	Johns Hopkins, '00.....	New Haven
Flynn, C. T.	Yale, '11.....	New Haven
Flynn, D. A.	Yale, '05.....	New Haven
Flynn, J. F.	P. & S., Balt., '12.....	Bridgeport
Flynn, J. H. J.	Yale, '95.....	New Haven
Foley, F. E., B.A., Holy Cross, '08	Yale, '14.....	New Haven
Fontaine, A.	Laval Univ., '92.....	Plainfield
Foot, C. J., B.A., Yale, '83; M.A., Yale, '90	Harvard, '87.....	New Haven
Ford, A. P.	Wom. Med. Coll., Pa., '04.....	New Haven
Ford, G. S.	Bellevue, '93.....	Bridgeport
Formichelli, G.	Univ. Italy, '98.....	Bridgeport
Foster, D., M.A., Univ. Kan.	Yale, '99.....	Stamford
Foster, W. W.	Harvard, '82, Bureau of Pensions, Washington, D. C.	
Fox, D. A.	N. Y. Univ. & Bell. Hosp., '02....	Clinton
Fox, E. G.	Univ. N. Y., '83.....	Wethersfield
Fox, M. E.	L. I. Hosp. Coll., '03.....	Uncasville
Freeman, A. C.	Univ. Vt., '13.....	Norwich
French, H. T.	P. & S., N. Y., '91.....	Deep River
Fromen, E. T.	Milwaukee Med. Coll., '97....	New Britain
Frost, C. W. S.	P. & S., N. Y., '80.....	Waterbury
Furniss, H. W.	Howard Univ.	Hartford
Gade, C. J.	Yale, '10.....	Bridgeport
Gadle, P. F.	Univ. Vt.	Norwich
Gailey, J. J.	Bowdoin, '98.....	Waterbury
Gallivan, T. H.	Yale, '09.....	Hartford
Gancher, J.	L. I. Coll. Hosp., '06.....	Waterbury
Gandy, R. R.	Univ. Penn., '99.....	Stamford
Ganey, J. M.	P. & S., N. Y., '04.....	New London
Gardner, C. W.	Univ. Md., '01.....	Bridgeport
Gardner, J. L.	Univ. Vt., '81.....	Central Village
Garlick, G. B.	Yale, '12.....	Bridgeport
Garlick, S. M., B.A., Dart., '74	Harvard, '77.....	Bridgeport
Gates, A. B.	L. I. Coll. Hosp., '12.....	Greenwich
Gaylord, C. W., B.A., Yale, '11	Yale, '15.....	Branford
Geraci, L. A., Ph.B., Yale, '13	P. & S., N. Y., '17.....	New Haven
Gessner, F. E.	Yale, '12.....	care Surg. Gen., U. S. Army
Gibbs, J. A.	P. & S., Chicago, '02.....	Suffield
Gibson, E. T., B.A., Univ. Kansas, '08....	Univ. Kansas, '12.....	Kansas City, Mo.
Gilday, J. L.	Med. Coll. Cin., '13.....	Bridgeport
Gildersleeve, C. C.	Yale, '96.....	Norwich
Gill, M. H.	Yale, '96.....	Hartford
Gilllin, C. A.	Univ. N. Y., '83.....	New Britain

Gilmore, J. L.	Yale, '04.....	West Haven
Girard, C. H.	Victoria, '96.....	Willimantic
Girouard, J. A.	Balt. Med. Coll., '99.....	Willimantic
Gladwin, E. H.	Wom. Med. Coll., N. Y., '72.....	Hartford
Godfrey, C. C., Ph.B., Yale, '77	Dartmouth, '84.....	Bridgeport
Godfrey, W. T.	Cornell, '07.....	Stamford
Gold, J. D., Ph.B., Yale, '88	P. & S., N. Y., '91.....	Bridgeport
Goldberg, S. J.	Yale, '07.....	New Haven
Goldman, G.	Yale, '10.....	New Haven
Gompertz, L. M.	Yale, '96.....	New Haven
Good, W. M.	Yale, '09.....	Waterbury
Goodenough, E. W., B.A., Yale, '87	Yale, '93.....	Waterbury
Goodrich, C. A., B.S., Mass. Agr. Coll., '93	P. & S., N. Y., '96.....	Hartford
Goodrich, W. A.	Med. Chi., Phila., '02.....	Waterbury
Goodwin, R. S., Ph.B., Yale, '90	P. & S., N. Y., '93.....	Thomaston
Goodyear, R. B.	Yale, '68.....	North Haven
Gordon, W. F.	L. I. Hosp. Coll., '96.....	Danbury
Gorham, F.	Yale, '76.....	Lyons Plains
Gosselin, G. A., B.A., Tural, '11	Univ., '15.....	Waterbury
Grannis, I.	Yale, '96.....	Old Saybrook
Graves, C. B., B.A., Yale, '82	Harvard, '86.....	New London
Graves, F. G.	Yale, '92.....	Waterbury
Gray, W. H.	P. & S., N. Y., '89.....	Mystic
Green, J. H.	N. Y. Univ. & Bell. Hosp., '13.....	Waterbury
Greenstein, M. J.	Univ. South, '06.....	Bridgeport
Gregory, J. G., B.A., Yale, '65	P. & S., N. Y., '68.....	Norwalk
Griffen, D. P.	Jefferson, '14.....	Bridgeport
Griggs, J. B.	Yale, '97.....	Hartford
Griswold, A. H., B.A., Harvard, '02	Johns Hopkins, '06.....	Farmington
Griswold, F. P.	P. & S., N. Y., '76.....	Meriden
Griswold, J. E.	Univ. N. Y., '79.....	Rocky Hill
Griswold, R. M.	Univ. N. Y., '75.....	Kensington
Griswold, W. L., Ph.B., Yale, '81	P. & S., N. Y., '85.....	Greenwich
Grodzinsky, H. W.	Yale, '17.....	New Haven
Guild, F. E.	L. I. Hosp. Coll., '85.....	Windham
Hale, F., B.S., Amherst, '05	P. & S., N. Y., '09.....	Bridgeport
Hall, J. B.	Yale, '92.....	Hartford
Hallock, F. K., B.A., Wesleyan, '82; M.A., Wesleyan, '85	P. & S., N. Y., '85.....	Cromwell
Hamant, I. L.	L. I. Hosp. Coll., '90.....	Norfolk
Hamilton, C. A.	Univ. Vt., '86.....	Waterbury
Hammond, S. M.	Yale, '96.....	Hartford
Hanchett, H. B.	Jefferson, '05.....	Torrington
Hanley, J. P.	Cornell, '06.....	Stafford Springs
Harrington, A. T., B.A., Yale, '94	Harvard, '10.....	Hartford
Harrington, J. L.	Jefferson, '03.....	New London
Harrison, J. F.	Jefferson, '03.....	Stamford
Hart, B. I., B.A., N. Y. Univ., '00	P. & S., N. Y., '04.....	Bridgeport
Harten, J. A.	Balt. Med., '10.....	New Haven
Hartnett, J. D.	Balt. Med., '11.....	Winsted
Hartshorn, W. E., Ph.B., Colo. Coll., '95	Univ. Minn., '98.....	New Haven
Harvey, E. R.	Balt. Med., '02.....	Seymour
Hatheway, C. M.	Bellevue, '03.....	Hartford

Havey, L. A.	Univ. Vt., '10.....	Bridgeport
Haviland, C. F.	Univ. Syracuse, '96.....	Middletown
Hawkes, W. W., B.A., Yale, '79	Yale, '81.....	New Haven
Hawley, G. W., Ph.B., Yale, '96	Cornell, '99.....	Bridgeport
Hayes, J. F.	Univ. N. Y., '79.....	Waterbury
Haylett, H. B.	Univ. Vt., '07.....	Hartford
Hazen, R., B.A., Univ. Vt., '96	Univ. Vt., '98.....	Thomaston
Heady, C. K.	Jefferson, '13.....	Milford
Healey, T. F.	L. I. Med. Coll., '08.....	Waterbury
Healy, T. F.	Niagara, '93	Bridgeport
Henderson, A. C., B.S., Amherst, '99	P. & S., N. Y., '03.....	Stamford
Hendricks, A. L.	Yale, '07.....	New Haven
Hendry, W. E.	Alhany, '89.....	Willimantic
Henkle, E. A.	Cornell, '99.....	New London
Henze, C. W.	Yale, '00.....	New Haven
Hephurn, T. N., B.A., Randolph Macon Coll., Va., '00; M.A., '01	Johns Hopkins, '05.....	Hartford
Herbert, A. C.	Univ. Va., '03.....	New Haven
Herr, E. A., B.A., Dartmouth, '06	Univ. Vt., '09	Waterbury
Hershman, A. A.	Yale, '08.....	New Haven
Hertzberg, G. R.	Dartmouth, '99.....	Stamford
Hessler, H. P.	Yale, '03.....	New Haven
Heuhlein, A. C.	P. & S., N. Y., '02.....	Hartford
Hewitt, A. F.	Univ. Syracuse, '14.....	Stamford
Heyer, H. H.	Univ. N. Y., '87.....	New London
Hibbard, N.	Harvard, '82.....	Danielson
Higgins, G. S.	Yale, '01.....	North Haven
Higgins, H. E.	Univ. N. Y., '96.....	Norwich
Higgins, J. W.	P. & S., Balt., '07.....	Hartford
Higgins, W. L.	Univ. N. Y., '90.....	South Coventry
Hill, C. E., B.A., Yale, '76	Harvard, '79.....	East Killingly
Hill, W. M.	Univ. Va., '97.....	Noank
Hills, L. H.	Wom. Med. Coll., '96.....	Willimantic
Hipkiss, G.	Hahnemann, Phil., '86.....	Noroton
Hippolitus, P. D.	Yale, '12.....	Bridgeport
Hirata, I.	Yale, '12.....	New Haven
Hitchcock, W., Ph.B., Yale, '80	P. & S., N. Y., '83.....	Norwalk
Hodgson, T. C., M.B., Toronto, '94	Trinity Med. Coll., '94.....	East Berlin
Hoegen, J. A.	Homeo. Med. Coll., N. Y., '15.....	Bronx, N. Y.
Hoffmann, W. E.	Hahn., Chi., '05.....	Torrington
Hogan, W. J.	Yale, '98.....	Torrington
Holbrook, C. W., M.A., Amherst, '93	Yale, '96.....	East Haven
Holmes, LeV.	Boston Univ. Homeo. Sc. of Med., '04, So. Manchester	
Honeij, J. A.	Tufts, '07.....	New Haven
Horn, M. I., Med. Coll. N. Y., '12	N. Y. Homeo. Med. Coll., '13...	Bridgeport
Horwitz, M. T.	Md. Med. Coll., '13.....	Bridgeport
House, A. L.	Yale, '95.....	Stamford
Howard, A. W.	Univ. N. Y., '90.....	Wethersfield
Howd, S. J.	Jefferson, '83.....	Winsted
Howe, H. H.	Univ. Vt., '80.....	Yantic
Howland, DeR.	P. & S., N. Y., '06.....	Stratford
Howland, E. J.	Univ. Vt., '11.....	Colchester
Hoyt, H. E., B.A., Univ. Kansas	Alhany, '94.....	Noroton
Hulbert, W. S.	Univ. N. Y., '80.....	Winsted
Huntington, S. H.	Yale, '76.....	Norwalk
Hurlhut, A. M.	P. & S., N. Y., '79.....	Stamford

Hurwitz, H. M. Yale, '12..... Hartford
 Hutchinson, J. E., B.A., Ohio State Univ., '09 Johns Hopkins, '05..... Hartford
 Hyde, C. E. Yale, '10..... Bridgeport
 Hyde, F. C. Univ. Mich., '00..... Greenwich
 Hyde, H. B. Univ. Mich., '00..... Greenwich
 Hynes, F. H. Tufts, '13..... New Haven
 Hynes, T. V. Yale, '00..... New Haven

Ingalls, P. H., B.A., Bowdoin, '77;

M.A., Bowdoin, '85 P. & S., N. Y., '80..... Hartford
 Irving, S. W. Yale, '91..... New Britain
 Ives, E. B. Yale, '03..... Bridgeport
 Ives, J. W. Yale, '00..... Milford

Jackowitz, G. Boston Univ. Med. Coll., '07... New Haven
 Jackson, A. J. P. & S., N. Y., '15..... Waterbury
 Jackson, C. W. Univ., N. Y., '87..... Watertown
 James, G. R. Yale, '10..... New Haven
 Jarvis, H. G., B.A., Yale, '06 Johns Hopkins, '10..... Hartford
 Jenkins, C. A. Balt. Med. Coll., '11..... Willimantic
 Jennings, G. H. L. I. Hosp. Coll., '75..... Jewett City
 Johnson, E. H. Univ. Vt., '88..... Naugatuck
 Johnson, E. H. Univ. Md., '00..... Waterbury
 Johnson, E. M. Yale, '14..... New Haven
 Johnson, J. M. L. I. Hosp. Coll., '95..... Bridgeport
 Joslin, G. H. Univ. Vt., '87..... Mt. Carmel
 Judson, W. H. Jefferson, '78..... Danielson

Kane, J. H. Md. Med. Coll., '04..... Thomaston
 Kane, T. F. Bellevue, '87..... Hartford
 Keating, H. F. Yale, '08..... New Haven
 Keating, W. P. S. Jefferson, '99..... Willimantic
 Keeler, C. B. Habn., Chicago, '88..... New Canaan
 Keeler, M. G. N. Y. Homeo., '16..... Springdale
 Keith, A. R., B.A., Colby, '97 Harvard, '03..... Hartford
 Kellogg, H. K. W., B.S., Amherst, '89 ... P. & S., N. Y., '03..... Norwalk
 Kelsey, E. R. Univ. Md., '01..... Winsted
 Kendall, J. C., B.A., Yale, '70 P. & S., N. Y., '75..... Norfolk
 Keniston, J. M. Harvard, '71..... Portland, Me.
 Kennedy, P. B. Bellevue, N. Y., '95..... Derby
 Kennedy, W. C. Georgetown, '10..... Torrington
 Kent, J. B. Harvard, '60..... Putnam
 Kilbourn, C. J. Univ. Vt., '14..... Collinsville
 Kilbourn, C. L. Yale, '97..... New Haven
 Kilbourn, J. A. P. & S., Balt., '97..... Hartford
 Kilbourn, J. B. P. & S., Balt., '11..... Hartford
 Kilmartin, T. J. Univ. N. Y., '95..... Waterbury
 Kingman, J. H., B.A., Yale, '82 P. & S., N. Y., '85..... Middletown
 Kingsbury, C. H. Univ. Vt., '99..... Danielson
 Kingsbury, I. W., B.A., Harvard, '96 P. & S., N. Y., '03..... Hartford
 Kinsella, G. J. Tufts, '12..... New Britain
 Kinsella, M. A. Tufts, '12..... New Britain
 Kirby, F. A. Columbian Univ., Wash., D. C., '95.. New Haven
 Kirschbaum, E. H. Yale, '12..... Waterbury

Klein, J. M.	Univ. Vt., '09.....	New Britain
Kleiner, I.	Yale, '08.....	New Haven
Kleiner, S. B., Ph.B., Yale, '11	Yale, '15.....	New Haven
Knapp, C. W.	P. & S., N. Y., '12.....	Greenwich
Knight, W. W.	Univ. N. Y., '76.....	Hartford
Knowlton, D. J., B.A., Harvard	Harvard, '12.....	Greenwich
Kowalewski, V. A., B.A., Yale, '99	Yale, '02.....	West Haven
La Field, W. A.	N. Y. Homeo., '05.....	Bridgeport
Lamarche, G. T.	Victoria, '87.....	Putnam
Lambert, H. B.	Jefferson, '09	Bridgeport
Lampson, E. R., B.A., Trinity, '91	P. & S., N. Y., '96.....	Hartford
Landry, A. B.	Jefferson, '09.....	Hartford
Lane, J. E., B.A., Yale, '94; M.A., Yale, '97	Yale, '03.....	New Haven
Lang, W. P.	Hahn., Phila., '01.....	New Haven
LaMoure, C. TenE.	Albany, '94.....	Mansfield Depot
LaPierre, A. J.	Univ. Vt., '10.....	Norwich
LaPierre, L. F.	Yale, '01.....	Norwich
La Pointe, J. W. H.	Laval Univ., Montreal, '92.....	Meriden
Lawlor, M. J., Holy Cross, '02	P. & S., N. Y., '06.....	Waterbury
Lawson, G. N., B.A., Yale, '90	Yale, '92.....	Middle Haddam
Lawson, S. J.	Univ. Va., '05.....	New London
Lawton, F. L., Ph.B., Yale, '90	Yale, '93.....	Hartford
Lawton, R. J.	Md. Med., '08.....	Terryville
Lay, W. S.	Yale, '01.....	Hamden
Leak, R. L.	Albany, '98.....	Middletown
Lear, M.	Yale, '11.....	New Haven
Lee, F. H.	Albany, '88.....	Canaan
Lee, H. M.	Columbia, '98.....	New London
Lemmer, G. E.	Bellevue, '85.....	Danbury
Leverty, C. J.	N. Y. Univ. & Bell., '01.....	Bridgeport
Levy, D. F., Ph.B., Yale, '15	Yale, '19.....	New Haven
Levy, L. H., Ph.B., Yale, '04; M.S., Yale, '06	Yale, '11.....	New Haven
Levy, W.	Yale, '11.....	West Suffield
Lewis, D. M., B.A., Yale, '97	Johns Hopkins, '01.....	New Haven
Lewis, G. F., B.A., Trinity, '77	Yale, '84.....	Stratford
Licht, W. H., B.S., Trinity, '07	Johns Hopkins, '11.....	Waterbury
Linde, J. I.	Yale, '08.....	New Haven
Lindsley, C. P., Ph.B., Yale, '75	Yale, '78.....	New Haven
Little, H. C.	Yale, '10.....	Willimantic
Locke, H. L. F.	Tufts, '12.....	Hartford
Lockhart, R. A.	Yale, '91.....	Bridgeport
Lockwood, H. DeF.	Yale, '01.....	Meriden
Loewe, L. J., M.D.V., Harvard, '98	Tufts, '01.....	Middletown
Loomis, F. N., B.A., Yale, '81	Yale, '83.....	Derby
Lord, S. A.	Harvard, '94.....	Concord, Mass.
Loveland, E. K.	Yale, '97.....	Watertown
Loveland, J. E., B.A., Wesleyan, '89	Harvard, '92.....	Middletown
Luby, J. F., Ph.B., Yale, '76	P. & S., N. Y., '78.....	New Haven
Ludington, N. A.	Yale, '01.....	New Haven
Luther, C. V.	Wom. Med. Coll., Pa., '85....	Old Saybrook
Lyman, D. R.	Univ. Va., '99.....	Wallingford
Lynch, E. J.	Univ. Penn., '09.....	Shelton
Lynch, J. C.	Univ. N. Y., '86.....	Bridgeport

Lynch, J. F.	P. & S., Balt., '13.....	Hartford
Lynch, R. J.	Bellevue, '97.....	Bridgeport
Lyon, T. W.	Yale, '03.....	New Haven
MacDonald, J. J.	Yale, '07.....	Bridgeport
MacLean, D. R.	Balt. Med. Coll., '01.....	Stamford
Madden, L. I., B.A., Clark, '05.....	Harvard, '10.....	Hartford
Maguire, E. O'R.	P. & S., N. Y., '98.....	Derby
Maher, J. S., Ph.B., Yale, '92	Yale, '96.....	New Haven
Maher, S. J.	Yale, '87.....	New Haven
Mailhouse, M., Ph.B., Yale, '76	Yale, '78.....	New Haven
Maine, T. P.	Med. Chi., '12.....	North Stonington
Maislen, S.	Bellevue, '14.....	Hartford
Maitland, D. L.	Univ. Penn., '95.....	Middletown
Maloney, D. J.	Univ. N. Y., '96.....	Waterbury
Maloney, M. W.	Jeff. Med. Coll., Phila., '97....	New Britain
Mann, F. J., Ph.B., Yale, '90	Univ. Buffalo, '93.....	New Britain
Manship, F. P.	Women's Med., Phila.....	Middlefield
Marcy, R. A.	N. Y. Univ. Med. Coll., '82.....	Litchfield
Mariani, N.	Univ. Naples, '93.....	New Haven
Marsh, A. D.	Yale, '08.....	Hampton
Marsh, A. W.	Univ. Vt., '82.....	New Haven
Martelle, H. A., B.A., Bowdoin, '01	Johns Hopkins, '05.....	Hartford
Mason, L. I.	P. & S., N. Y., '91.....	Willimantic
May, G. W.	Milwaukee Med. Coll., '95, So. Manchester	
Mayberry, F. H.	Univ. Vt., '85.....	East Hartford
Maynard, H. H., B.A., Amherst, '11	Yale, '16.....	New Haven
McCarthy, D. J.	P. & S., Balt., '06.....	Bridgeport
McClellan, W. E.	Toronto, '04.....	Hartford
McCook, J. B., B.S., Trinity, '90	P. & S., N. Y., '94.....	Hartford
McDermott, T. S.	Yale, '98.....	New Haven
McDonald, A. F.	P. & S., N. Y., '05.....	Waterbury
McDonnell, R. A., B.A., Yale, '90	Yale, '92.....	New Haven
McElman, H. W.	Boston Univ., '10.....	Meriden
McFarland, D. W.	Univ. N. Y., '85.....	Greens Farms
McGaughey, J. D.	Jefferson, '10.....	Wallingford
McGovern, E. F.	Univ. Balt., '01.....	Bridgeport
McGrath, J. H.	Yale, '08.....	Waterbury
McGuire, F. J.	Yale, '97.....	New Haven
McGuire, W. C.	Yale, '09.....	New Haven
McIntosh, E. F.	Yale, '97.....	New Haven
McKee, F. L.	P. & S., N. Y., '99.....	Hartford
McKendree, C. A., B.A., Dartmouth, '07	Dartmouth, '10.....	New York City
McLarney, T. J.	P. & S., Balt., '97.....	Waterbury
McLaughlin, J. H.	P. & S., Balt., '09.....	Jewett City
McLaury, F. H.	P. & S., N. Y., '95.....	Westport
McLinden, J. J.	Univ. Penn., '98.....	Waterbury
McNeil, R.	Yale, '62.....	South Salem, N. Y.
McPartland, P. F.	Balt. Med. Coll., '05.....	Hartford
McPherson, S. H.	Tufts, '13.....	Hartford
McQueen, A. S.	Yale, '01.....	Branford
McQueeney, A.	Yale, '05.....	Bridgeport
Mead, K. C.	Wom. Med. Coll., Pa., '83.....	Middletown
Meagher, W. F.	Univ. Vt., '99.....	Hartford

Meek, J. A.	McGill Univ., '75.....	South Norwalk
Meeks, H. A.	Bellevue, '90.....	Meriden
Mendillo, A. J.	Yale, '07.....	New Haven
Mercer, C. H.	Md. Med. Coll., '05.....	Ansonia
Merrill, W. T., B.A., Dartmouth, '87	Dartmouth, '90.....	Mattapan, Mass.
Miles, H. S., Ph.G., N. Y., '88	P. & S., N. Y., '91.....	Bridgeport
Miller, G. R.	P. & S., Balt., '86.....	Hartford
Miller, J. R.	Johns Hopkins, '11.....	Hartford
Miller, W. R.	Albany, '98.....	Hartford
Minor, G. M.	L. I. Hosp. Coll., '85.....	Waterford
Mitchell, J. T.	Univ. N. Y., '91.....	Middletown
Molumphy, D. J.	Jefferson, '06.....	Hartford
Monagan, C. A., B.S., Trinity, '93	Univ. Penn., '98.....	Waterbury
Moore, DeC. Y.	N. Y. Homeo. Med. Sc., '95, So. Manchester	
Moore, H. D.	Hahn, Phila., '93.....	Danbury
Moore, H. D.	Bellevue, '97.....	Torrington
Morgan, W. D., B.A., Trinity, '72	P. & S., N. Y., '76.....	Hartford
Moriarty, J. L.	Harvard, '96.....	Waterbury
Morrell, F. A.	L. I. Hosp. Coll., '85.....	Putnam
Morriss, W. H.	Johns Hopkins, '12.....	New Haven
Morrissey, M. J.	P. & S., Balt., Med., '97.....	Hartford
Morrissey, W. T., B.A., Holy Cross Coll. .	Baltimore, '09.....	Unionville
Morse, A.	Johns Hopkins, '06.....	New Haven
Morse, V. H. C.	Harvard, '03.....	Avon
Moser, O. A.	Yale, '02.....	Rocky Hill
Mountain, J. H.	Jefferson, '96.....	Middletown
Mullins, S. F.	Bellevue, '06.....	Danbury
Munger, C. E., Ph.B., Yale, '80	P. & S., N. Y., '83.....	Waterbury
Murdock, T. P.	Balt. Med., '10.....	Meriden
Murphy, B. P.	Jefferson, '96.....	Putnam
Murphy, J.	Univ. Penn., '95.....	Middletown
Murphy, J. A.	N. Y. Univ., '97.....	New Haven
Murphy, J. E.	Med. Chi. Phi., '09.....	Hartford
Murphy, W. G.	Albany Med. Coll., '90.....	Hartford
Nadler, A. G., B.A., Yale, '93	Yale, '96.....	New Haven
Naylor, J. H.	Univ. Vt., '95.....	Hartford
Nemoitin, J.	P. & S., N. Y., '05.....	Stamford
Nettleton, F. I., Ph.B., Yale, '94	Yale, '97.....	Shelton
Nettleton, I. LaF.	L. I. Hosp. Coll., '98.....	Bridgeport
Neumann, H. A.	L. I. Hosp. Coll., '09.....	Bridgeport
Newton, C. B.	Yale, '56.....	Stafford Springs
Nichols, R. W., Ph.B., Yale, '08	Johns Hopkins, '12.....	Montowese
Nickerson, N.,	N. Y. Med. Coll., '57.....	Meriden
Nolan, D. A., Ph.G., Phil., '93	Med. Chir., Phila., '95.....	Middletown
Nolan, J. M.	P. & S., Balt., '94.....	Westport
North, J. H.	L. I. Hosp. Coll., '73.....	West Cornwall
Notkins, L. A.	Yale, '03.....	New Haven
Noxon, G. H.	Balt. Med. Coll., '93.....	Darien
Nugent, H. W.	Hahn, Phila., '10.....	New Haven
Oher, G. E.	Univ. Vt., '90.....	Bridgeport
O'Brien, F. J.	Fordham, '13.....	Middletown
O'Brien, J. F.	Yale, '08.....	New Haven

O'Brien, J. F.	Univ. Vt., '13.....	Hartford
O'Brien, W. H. J., Ph.B., Yale, '08	Yale, '12.....	New Haven
O'Connell, T. S.	P. & S., Balt., '92.....	East Hartford
O'Connor, P. T.	Bellevue, '92.....	Waterbury
O'Flaherty, E. P.	Cornell, '01.....	Hartford
O'Hara, B. A.	Bellevue, '82.....	Waterbury
O'Hara, W. J. A.	P. & S., Balt., '93.....	Bridgeport
O'Loughlin, T. F.	Univ. N. Y., '96.....	Rockville
Onderdonk, H. J.	Univ. N. Y., '97.....	East Hartford
O'Neill, O.	Jefferson, '04.....	Willimantic
O'Neil, W. H.	Balt. Med. Coll., '11.....	Ansonia
Osborn, G. W., B.A., Yale, '84	P. & S., N. Y., '87.....	Bridgeport
Osborne, O. T., M.A., Yale, '99	Yale, '84.....	New Haven
O'Shaughnessy, E. J.	Bellevue, '99.....	New Canaan
Otis, I. S.	George Washington Univ., '17....	Meriden
Otis, S. D.	Univ. N. Y., '77.....	Meriden
Outerson, A. M.	Jefferson, '06.....	Hartford
Outerson, R.	Jefferson, '02.....	Windsor Locks
Overlock, S. B., B.A., Colby, '86	Bellevue, '89.....	Pomfret
Owens, W. T.	Univ. Vt., '99.....	Hartford
Paine, R. C.	Dartmouth, '00.....	Thompson
Page, C. I.	P. & S., N. Y., '90.....	Litchfield
Park, C. E.	Yale, '81.....	New Haven
Parker, E. O., B.A., Harvard, '91	P. & S., N. Y., '96.....	Greenwich
Parker, J. W.	Yale, '06.....	Hartford
Parker, S. H.	Univ. Va., '04.....	Hartford
Parker, T. R.	Univ. N. Y., '80.....	Willimantic
Parlato, M. A.	Yale, '08.....	Derby
Parmelee, E. K.	L. I. Hosp. Coll., '89.....	Ansonia
Partree, H. T., B.A., Yale, '87	Yale, '92.....	Torrington
Patterson, D. C.	P. & S., Balt., '06.....	Bridgeport
Peck, F. J.	Univ. Mich., '92.....	Ansonia
Peck, R. E., Ph.B., Yale, '90	Yale, '93.....	New Haven
Peckham, L. C.	Wom. Med. Coll., Pa., '85....	New Haven
Perkins, C. H.	P. & S., N. Y., '91.....	Norwich
Perreault, J. N.	Tufts, '07.....	Danielson
Perry, E. F.	L. I. Hosp. Coll., '97.....	Putnam
Peters, H. LeB., B.A., Univ. N. B.	McGill, '07.....	Bridgeport
Petrocelli, G. G.	Univ. Naples, '05.....	Middletown
Phelps, C. D., B.A., Amherst, '89; M.A., Amherst, '97	P. & S., N. Y., '95.....	West Haven
Phelps, S. E.	McGill, '99.....	Farmington
Phillips, A. N.	P. & S., N. Y., '83.....	Stamford
Phillips, F. L., Ph.B., Yale, '02	Yale, '06.....	New Haven
Pierce, E. W.	Univ. N. Y., '85	Meriden
Pierson, J. C.	Tufts, '03.....	Hartford
Pierson, S.	P. & S., N. Y., '81.....	Stamford
Pike, E. R.	Univ. Mich., '98.....	East Woodstock
Pinney, A. W.	Hahn. Med. Coll., Phila., '00....	Norfolk
Pinney, R. W.	P. & S., N. Y., '88.....	New Haven
Pitman, E. P., B.A., Dart., '86	Dartmouth, '91.....	New Haven
Platt, D. P.	N. Y. Univ. & Bell. Hosp., '09...	Stamford
Platt, W. L.	P. & S., N. Y., '81.....	Torrington

- Plumstead, M. W. Jefferson, '87.....East Haddam
 Plunkett, T. F. L. I. Coll. Hosp., '08.....Derby
 Pomeroy, N. A. P. & S., N. Y., '96.....Waterbury
 Pons, L. J. Univ. Vt., '85.....Devon
 Porter, D. W., B.A., Yale, '08 Harvard, '12.....New Haven
 Porter, I. N., B.A., Lincoln, '90 Yale, '93.....New Haven
 Porter, W., Jr. Chicago Med. Coll., '81.....Hartford
 Potter, F. E. P. & S., N. Y., '89.....Portland
 Powers, J. T. H. P. & S., Balt., '10.....Bridgeport
 Pratt, A. M. Bellevue, '92.....Deep River
 Pratt, E. P. & S., N. Y., '87.....Torrington
 Pratt, E. L. Univ. N. Y., '84.....Winsted
 Pratt, L. I. Que., '79.....Taftville
 Pratt, N. T., B.A., Trinity, '94;
 M.A., Trinity, '97 Yale, '04.....Bridgeport
 Prince, A. L. Yale, '10.....New Haven
 Purdy, A. M. Univ. Mich., '84.....Mystic
 Purinton, C. O., Ph.B., Yale, '97 Yale, '00.....West Hartford
 Purney, J. Balt. Med. Coll., '06.....New Britain
 Pyle, F. W., B.A., Yale, '97 P. & S., N. Y., '02.....Bridgeport
- Quaglia, M. N. Y. Homeo., '16.....Hartford
 Quinlan, R. V. Balt. Med., Coll., '10.....Meriden
 Quinn, J. F. Balt. Med. Coll., '06.....Bridgeport
 Quinn, R. J. P. & S., Balt., '13.....Waterbury
 Quintard, E. P. & S., N. Y., '87.....Norfolk
- Radom, F. Wom. Med. Coll., '12.....Hartford
 Rand, R. F., Ph.B., Yale, '95 Johns Hopkins, '00.....New Haven
 Randall, W. S., Ph.B., Yale, '83 P. & S., N. Y., '86.....Shelton
 Reade, E. G. Jefferson, '16.....Watertown
 Reardon, W. F. Bellevue, '09.....Hartford
 Reeks, T. E. Univ. Md., '01.....New Britain
 Reich, U. S. Univ. Va., '09.....Bridgeport
 Reidy, D. D. Med. Cbi., Pbila., '99.....Winsted
 Reidy, M. J. P. & S., N. Y., '10.....Winsted
 Reilly, F. H. Yale, '97.....New Haven
 Reilly, J. M. Yale, '78.....New Haven
 Reilly, W. A. Bellevue, '98.....Naugatuck
 Reinert, E. G. Balt. Med. Coll., '95.....Hartford
 Reynolds, H. St.C. Yale, '10.....New Haven
 Reynolds, H. S. Albany Med., '14.....Hartford
 Reynolds, W. G., B.A., Yale, '95 Yale, '97.....Woodbury
 Rice, R. W. P. & S., Balt., '09.....South Manchester
 Rice, W. E. Univ. Mich., '72.....Stamford
 Richardson, D. A. Yale, '81.....Derby
 Rinde, H., N. Dakota, '02 Johns Hopkins, '08.....Middletown
 Ringde, M. P. P. & S., Cleveland, '05.....Madison
 Ring, H. W., B.A., Bowdoin, '79;
 M.A., Bowdoin, '82 Me. Med. Coll., '87.....New Haven
 Riordan, M. D. Univ. Vt., '12.....Waterbury
 Rising, H. B. Yale, '95.....South Glastonbury
 Robbins, C. H. Balt. Med. Coll., '95.....New Haven
 Robbins, G. O. Yale, '79.....Waterbury

Rohhins, J. W.	Bellevue, '80.....	Naugatuck
Roberts, E. R.	Bowdoin, '13.....	Bridgeport
Robinson, J.	P. & S., N. Y., '98.....	New Britain
Robinson, M. P.	Yale, '95.....	Windsor Locks
Robinson, P. S., Ph.B., Yale, '89	Yale, '91.....	New Haven
Roch, E.	Victoria School, Montreal, North Grosvenordale	
Roche, T. J.	P. & S., Balt., '11.....	Bridgeport
Rockwell, T. F.	Univ. N. Y., '81.....	Rockville
Rodman, C. S.	P. & S., N. Y., '68.....	Waterbury
Rogers, J. F.	Yale, '05.....	New Haven
Rogers, O. F., Jr., B.A., Harvard, '08	Harvard, '12.....	New Haven
Rogers, P. H.	Yale, '12.....	West Haven
Rogers, T. W.	P. & S., N. Y., '90.....	New London
Ronayne, F. J.	Yale, '04.....	Hartford
Rooney, J. F.	Balt. Med. Coll., '03.....	Hartford
Root, E. K.	Univ. N. Y., '79.....	Hartford
Root, J. E., B.S., Boston Univ., '76	P. & S., N. Y., '83.....	Hartford
Rowe, M. J.	P. & S., Balt., '96.....	Bridgeport
Rowley, A. M.	Univ. Vt., '97.....	Hartford
Rowley, J. C., B.A., Harvard, '02	Harvard, '06.....	Hartford
Rowley, R. L.	Yale, '03.....	Hartford
Ruland, F. D.	P. & S., N. Y., '89.....	Westport
Russ, H. C., B.A., Yale, '02	Johns Hopkins, '06.....	Hartford
Russell, E.	Univ. Penn., '04.....	Waterbury
Russell, G. W.	Bellevue, '96.....	Waterbury
Russell, T. H., Ph.B., Yale, '06	Yale, '10.....	New Haven
Russell, W. S.	Yale, '80.....	Wallingford
Russo, J. D., Ph.B., Yale, '12	Yale, '16.....	New Haven
Ryan, P. J.	Niagara, '98.....	Hartford
Ryan, T. M., B.A., Loyola Coll.	Balt. Med. Coll., '02.....	Torrington
Ryder, R. H.	P. & S., Balt., '13.....	Waterbury
Sagarino, J. F.	P. & S., N. Y., '13.....	Hartford
Sandy, W. C., B.A., Columbia, '98	P. & S., N. Y., '01.....	New York
Sanford, C. E.	Yale, '06.....	New Haven
Sanford, L. C., B.A., Yale, '90	Yale, '93.....	New Haven
Sanford, W. H.	Balt. Med. Coll., '95.....	New Haven
Sansone, N. M.	Denver Med. Coll., '02.....	Bridgeport
Scarhrough, M. McR., B.A., Univ. of Oregon, '02; M.A., Yale, '05	Yale, '07.....	New Haven
Schaefer, J.	Tufts, '17.....	Hartford
Schavoir, F.	P. & S., Balt., '87.....	Stamford
Scholl, R. F.	Yale, '12.....	New Haven
Schulz, H. S.	Hahn, Phila., '01.....	Bridgeport
Scotfield, E. J. S.	Univ. N. C., '08.....	Danbury
Scrimgeour, A.	L. I. Coll. Hosp., '09	Bridgeport
Seahury, R. B.	Harvard, '18.....	New Haven
Sedgwick, J. T.	Univ. N. Y., '81.....	Litchfield
Segnalla, E.	Yale, '12.....	New Haven
Segur, G. C.	P. & S., N. Y., '82.....	Hartford
Shafer, A.	Univ. Penn., '18.....	Hartford
Shannon, T. J.	Balt. Med., '99.....	Falls Village
Sharpe, E. T.	Univ. N. Y., '95.....	Derby
Sharpe, H. R.	Univ. Vt., '00.....	Manchester

Shea, D. E.	Loyola, '17.....	Hartford
Shea, J. F.	P. & S., Balt., '11.....	Bridgeport
Sheahan, M. J.	Yale, '96.....	New Haven
Sheahan, W. L.	P. & S., Balt., '12.....	New Haven
Sheehan, M. T.	Yale, '10.....	Wallingford
Shelton, G. A., M.A. (Hon.), Yale, '91 ..	Yale, '69.....	Shelton
Sherer, H. C.	Univ. N. Y., '92.....	South Norwalk
Sherman, F. A.	Wom. Med. Col., N. Y., '91....	Address unknown
Sherrill, G.	P. & S., '91.....	Stamford
Shirk, S. M.	Hahn., Phila., '97.....	Stamford
Simmons, W. N.	Univ. Vt., '89.....	Tolland
Simonds, C. E.	Univ. N. Y., '97.....	Willimantic
Simonson, L.	Tufts, '08.....	Bridgeport
Simonton, F. F.	Me. Med. Sc., '03.....	Thompsonville
Simpson, F. T., B.A., Yale, '79 ..	Bowdoin, '84.....	Hartford
Skiff, F. S.	Univ. N. Y., '88.....	Falls Village
Skiff, S. E.	Hahn., Phila., '03.....	New Haven
Skiff, W. C.	Yale, '91.....	New Haven
Skinner, C. E., LL.D., Rutherford, N. C., '00	Yale, '91.....	New Haven
Slattery, M. D.	Yale, '93.....	New Haven
Slemons, J. M.	Johns Hopkins, '01.....	New Haven
Sloan, T. G.	P. & S., N. Y., '99.....	South Manchester
Smail, M. L.	Univ. Vt., '93.....	Mystic
Smirnow, M. R.	Yale, '06.....	New Haven
Smith, A. C.	P. & S., Balt., '10.....	Danbury
Smith, C. F.	N. Y. Homeo. Coll., '84.....	Wallingford
Smith, D., B.A., Yale, '96	Yale, '99.....	Bridgeport
Smith, D. P., B.A., Yale, '10	Yale, '12.....	Meriden
Smith, E. H., B.A., Amherst, '85	P. & S., N. Y., '89.....	Redding
Smith, E. L.	Yale, '96.....	Waterbury
Smith, E. M.	P. & S., N. Y., '82.....	Bridgeport
Smith, E. T., M.A., Trinity, '03 Hon.	Yale, '97.....	Hartford
Smith, E. W., B.A., Yale, '78	McGill, Mont., '82.....	Meriden
Smith, F. DeW.	Hahn., '10.....	Guilford
Smith, F. L.	Univ. N. Y., '75.....	Stafford Springs
Smith, F. L.	Albany, '83.....	Bridgeport
Smith, F. M.	Univ. Vt., '11.....	Willimantic
Smith, F. S., B.A., Yale, '79	Yale, '82.....	Chester
Smith, G. A., B.A., Yale, '03	Johns Hopkins, '07.....	Long Hill
Smith, G. M., B.A., Yale, '01	P. & S., N. Y., '05.....	Waterbury
Smith, G. T.	Univ. Md., '97.....	Mansfield Depot
Smith, H. H.	Jefferson, '77.....	New Haven
Smith, M.	Univ. N. Y., '83.....	New Haven
Smith, S. R.	Med. Chir. Phil., '16.....	Bridgeport
Smith, W. E.	Univ. Mich., '10.....	Stamford
Smykowski, B. L.	Balt. Med., '11.....	Bridgeport
Smyth, H. E.	McGill Univ., '84.....	Bridgeport
Sperry, F. N.	Yale, '94.....	New Haven
Spicer, E.	Yale, '05.....	Waterbury
Spier, S. L.	Yale, '04.....	New Haven
Sprague, C. H.	P. & S., N. Y., '04.....	Bridgeport
Standish, F. B.	Yale, '03.....	New Haven
Standish, J. H.	Univ. N. Y., '95.....	Hartford
Stanley, C. E.	Univ. Penn., '76.....	Portland

- Stanton, J. G., B.A., Amherst, '70Wurtzburg, '73.....New London
 Starr, R. S., B.A., Trinity, '97;
 M.A., Trinity, '00P. & S., N. Y., '01.....Hartford
 Stauh, G. E.L. I. Hosp. Coll., '93.....New Milford
 Stauh, J. H.L. I. Hosp. Coll., '99.....Stamford
 Steadman, W. G.Bellevue, '74.....Southington
 Steele, H. M., Ph.B., Yale, '94Johns Hopkins, '02.....New Haven
 Steiner, W. R., B.A., Yale, '92;
 M.A., Yale, '95Johns Hopkins, '98.....Hartford
 Stern, C. S., B.A., C. C. N. Y., '88Bellevue, '91.....Hartford
 Stetson, J. E.Yale, '81.....New Haven
 Stetson, P. R.Yale, '02.....New Haven
 Stevens, C. N.Tufts, '98.....West Cornwall
 Stevens, F. W.Yale, '00.....Bridgeport
 Stevens, H. G.Balt., '04.....New Preston
 Stewart, H. E.Yale, '10.....New Haven
 Stilphen, H. L.Univ. Vt., '13.....National Soldiers' Home, Me.
 Stockwell, W.Univ. Penn., '04.....New Britain
 Stoll, H. F.P. & S., N. Y., '02.....Hartford
 Storrs, E. R.Jefferson, '90.....Hartford
 Strang, R. H. W.Univ. Penn., '04.....Bridgeport
 Strauss, M. J., B.A., Yale, '14P. & S., N. Y., '17.....New Haven
 Strobel, J. E.Temple, '09.....Hartford
 Strosser, H.Univ. Berlin, '84.....New Britain
 Sullivan, D.Univ. N. Y., '97.....New London
 Sullivan, D. F., B.A., Niagara Univ., '89..Niagara Univ., '91.....Hartford
 Sullivan, J. B., Yale, '03Yale, '06.....New Haven
 Sullivan, J. F., B.A., Yale, '90P. & S., N. Y., '94.....New Haven
 Sullivan, M. J.Cornell, '00.....Meriden
 Sunderland, P. U.N. Y. Hom. Med., '94.....Danbury
 Swain, H. L.Yale, '84.....New Haven
 Swan, H. C.Tufts, '03.....Hartford
 Sweet, G. C.P. & S., Balt., '12.....New Haven
 Sweet, J. H. T.Tufts, '12.....Hartford
 Sweet, W. N., B.A., Yale, '11P. & S., N. Y., '16.....Wallingford
 Swenson, A. C.Yale, '02.....Waterbury
 Swett, P. P.Univ. N. Y., '04.....Hartford
 Taft, C. E.Harvard, '86.....Hartford
 Tanner, W. A.Univ. Vt., '12.....Brooklyn
 Taylor, J. C.Univ. Mich., '91.....New London
 Taylor, M. W.Tufts, '05.....Hartford
 Teele, J. E., B.A., Tahor, '85Wom. Med. Coll., Pa., '88.....New Haven
 Tenney, A. J., Ph.B., Yale, '77Yale, '83.....Branford
 Terhune, W. B.Tulane, '15.....New Haven
 Thibault, L. J.Yale, '00.....Waterbury
 Thoms, H.Yale, '10.....New Haven
 Thomson, T. L.Hahn., Phil., '01.....Torrington
 Thompson, E. J.Wom. Med. Coll., N. Y., Inf., '96, Hartford
 Thompson, G.Me. Med. Coll., '89.....Taftville
 Thompson, W. N., B.A., Bates, '88Jefferson, '89.....Hartford
 Tileston, W., Harvard, '95Harvard, '99.....New Haven
 Tingley, W. K.Bellevue, '86.....Norwich
 Tinker, W. R.Univ. N. Y., '80.....South Manchester
 Todd, Frank PaigeBoston Univ., '89.....Danielson

Tolles, B. I., B.A., Yale, '01	Yale, '04.....	Ansonia
Topping, J. R.	Univ. N. Y., '82.....	Bridgeport
Townsend, C. R.	Alhany, '95.....	Bridgeport
Townshend, R., Ph.B., Yale, '00	P. & S., N. Y., '05.....	New Haven
Tracey, D. W., Ph.B., Yale, '04	Johns Hopkins, '08.....	Hartford
Tracey, W. J.	Univ. N. Y., '89.....	Norwalk
Tracy, R. G.	Yale, '00.....	New Haven
Treat, W. H.	Yale, '06.....	Derby
Trecartin, D. M.	Dartmouth, '94.....	Bridgeport
Truex, E. H.	Univ. Louisville, '08.....	East Hartford
Tuch, M.	Bellevue, '06.....	Hartford
Tucker, G. E., B.S., Chicago	Med. Chi. Phil., '09.....	Hartford
Tukey, F. M., B.A., Bowdoin, '91	Harvard, '94.....	Bridgeport
Turbert, E. J.	Balt. Med. Coll., '04.....	Hartford
Turkington, C. H., Ph.B., Yale, '03	Johns Hopkins, '07.....	Litchfield
Turner, A. R., B.A., Amherst, '84	Univ. Paris, '94.....	Norwalk
Turrill, H. S., Ph.B., Yale, '06	Yale, '10.....	Kent
Tuttle, A. L.	Albany, '88.....	Salisbury
Tuttle, C. A., Ph.B., Yale, '88	Yale, '90.....	New Haven
Tuttle, F. J.	Univ. Vt., '98.....	Naugatuck
Tynan, J. J.	P. & S., Balt., '07.....	Torrington
Upson, C. R.	L. I. Hosp. Coll., '78.....	Bristol
Vail, E. S.	N. Y. Homeo. Med. Coll., '82, Thompsonville	
Vail, G. F., B.S., Villanova, '98	Univ. Penn., '02.....	Hartford
Vail, T. E., Ph.B., Yale, '07	Johns Hopkins, '11.....	Thompsonville
VanCor, C. A.	Univ. Vt., '14.....	Middletown
VanStrander, W. H.	Univ. Vt., '00.....	Hartford
VanVleet, P. P.	Bellevue, '69.....	Stamford
Variell, A.	Bowdoin, '94.....	Waterbury
Vastola, A. P.	Fordham, '12.....	Waterbury
Verdi, W. F., M.A. (Hon.), Yale, '14	Yale, '94.....	New Haven
Vernlund, C. F., B.S., S. Dak. State, '09 ..	Howard, '14.....	Hartford
Wadhams, S. H.	Yale, '96.....	care Surg. Gen., U. S. Army
Waite, F. L.	Bellevue, '88.....	Hartford
Waite, R. L., Ph.B., '05	Johns Hopkins, '09.....	Hartford
Wales, F. J.	Univ. N. Y., '97.....	Stepney Depot
Walsh, F. W.	P. & S., Balt., '85.....	Rockville
Walsh, J. W.	P. & S., Balt., '07.....	Portland
Walsh, T. P.	Univ. Vt., '02.....	Middletown
Ward, H. W.	Balt. Med. Coll., '03.....	Winsted
Ward, J. W.	P. & S., Balt., '07.....	Portland
Warner, C. N.	Jefferson, '96.....	Litchfield
Warner, G. H.	Yale, '97.....	Bridgeport
Wason, D. B.	P. & S., N. Y., '00.....	Bridgeport
Waterhouse, H. E.	P. & S., N. Y., '02.....	Bridgeport
Waterman, P.	Cornell, '02.....	Hartford
Waters, J. B.	Univ. Vt., '90.....	Hartford
Watson, W. C.	L. I. Hosp. Coll., '97.....	Bridgeport
Watts, J. F.	Georgetown, '12.....	Bridgeport
Weadon, W. L.	Va. Med. Coll., '05.....	Bridgeport
Weaver, B. S.	Univ. Mich., '10.....	Stamford
Weed, A. R.	Univ. Vt., '12.....	New Haven
Weed, F. A.	Alhany, '12.....	Torrington
Weidner, C.	Univ. Ind., '93.....	Hartford

Weil, A.	Bellevue, '14.....	New Haven
Weir, J. M.	Queen's Univ., Kingston, Ont., '91, Hartford	
Welch, G. K.	P. & S., N. Y., '78.....	Hartford
Welch, H. L., B.A., Yale, '94	Yale, '97.....	New Haven
Welch, T. F.	Georgetown, '04.....	Hartford
Welch, W. C.	Yale, '77.....	New Haven
Weld, S. B., B.A., Dartmouth, '12	Harvard, '16.....	Hartford
Welden, E. B.	P. & S., Balt., '13.....	Bridgeport
Weldon, T. H.	Univ. N. Y., '83.....	South Manchester
Wells, D. B., B.A., Yale, '07	Johns Hopkins, '12.....	Hartford
Wells, E. A., B.A., Yale, '97	Johns Hopkins, '01.....	Hartford
Wersebe, F. W.	Univ. N. Y., '98.....	Washington
West, R. B.	Univ. N. Y., '79.....	Guilford
Westervelt, M. Z.	Homeo., N. Y., '99.....	New Haven
Wheatley, L. F.	Tufts, '03.....	New Haven
Wheeler, F. H., B.A., Yale, '80	Yale, '82.....	New Haven
Wheelock, A. A.	Univ. Vt., '97.....	New Canaan
Whipple, B. N.	Yale, '07.....	Bristol
White, B. W.	L. I. Hosp. Coll., '86.....	Bridgeport
White, H. R.	Yale, '12.....	New Haven
White, R. C.	Univ. Vt., '89.....	Willimantic
Whiting, L. C.	Md. Med. Coll., '12.....	New Haven
Whittemore, E. R., B.A., Yale, '98	P. & S., N. Y., '02.....	New Haven
Wiedman, O. G.	Univ. Penn., '05.....	Hartford
Wight, G. D.	Bellevue, '87.....	Bethel
Wilcox, F. S.	Hahn., Phila., '94.....	Norwich
Wilkes, L. A.	Univ. Penn., '10.....	Bridgeport
Williams, F. S.	Northwestern, '05.....	Bridgeport
Williams, C. M.	P. & S., N. Y., '98.....	New York
Wilmot, L. H.	Univ. N. Y., '91.....	Ansonia
Wilson, F. E.	Univ. Vt., '11.....	Hartford
Wilson, J. C.	Univ. Vt., '04.....	Hartford
Wilson, L. A.	Yale, '10.....	Meriden
Wilson, McL. C.	Cornell Med. Sc., '04.....	West Hartford
Winne, W. N.	Univ. N. Y., '97.....	New Haven
Winship, E. O.	Univ. Vt., '00.....	New London
Witter, O. R.	P. & S., N. Y., '01.....	Hartford
Wolff, A. J.	Tex. Med. Coll., '76, Bellevue, '83, Hartford	
Woodford, C. N.	Univ. Louisville, '08.....	Naugatuck
Woodhouse, L. W.	Jefferson, '16.....	Terryville
Woodruff, T. A.	McGill, '88.....	New London
Woodward, H. B., B.S., Wesleyan, '08	Johns Hopkins, '12.....	Terryville
Wooster, C. M.	Univ. N. Y., '79.....	Tariffville
Worthen, T. W.	Dartmouth, '11.....	Hartford
Wright, F. W.	Bellevue, '80.....	New Haven
Wright, G. H.	P. & S., N. Y., '94.....	New Milford
Wright, J. W., B.A., Amherst, '77	Univ. N. Y., '80.....	Bridgeport
Wright, T. G.	Univ. N. Y., '65.....	New York
Wurtenburg, W. C., Ph.B., Yale, '89.....	Yale, '93.....	New Haven
Yergason, R. M.	P. & S., Balt., '09.....	Hartford
Young, C. B.	P. & S., N. Y., '94.....	Middletown
Young, J. F.	P. & S., N. Y., '13.....	New London
Young, T. H.	Yale, '95.....	New Haven
Yudkin, A. M., Ph.B., Yale, '14	Yale, '17.....	New Haven
Zink, C. E., B.A.,	Balt. Univ., '00.....	Middletown

